THE RESOURCES AGENCY OF CALIFORNIA

Department of Water Resources

BULLETIN No. 94-8

LAND AND WATER USE IN EEL RIVER HYDROGRAPHIC UNIT

Volume I: Text

Preliminary Edition

OCTOBER 1963

HUGO FISHER
Administrator
The Resources Agency of California

EDMUND G. BROWN
Governor
State of California

WILLIAM E. WARNE
Director
Department of Water Resources

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Volumes of Bulletin No. 94-8

I: Text (Includes Plate 1)

II: Plate 2: Land and Water Use (Includes Plate 1)

III: Plate 3: Classification of Lands (Includes Plate 1)

FOREWORD

In 1956, the State Legislature declared "that in providing for the full development and utilization of the water resources of this State it is necessary to obtain for consideration by the Legislature and the people, information as to the water which can be made available for exportation from the watersheds in which it originates without depriving those watersheds of water necessary for beneficial uses therein." The Department of Water Resources was, therefore, authorized and directed to conduct such investigations as necessary to compile this information. To do so, the department began its statewide Inventory of Water Resources and Water Requirements as outlined in the authorizing legislation (Water Code Section 232).

For purposes of this inventory, the State has been divided into major hydrographic areas. These areas, in turn, have been subdivided into hydrographic units generally comprising watersheds of individual rivers. Basic data, consisting of land and water use, classification of lands, and streamflow measurements, are collected for each hydrographic unit. To date, this activity has been concentrated mainly in northern watersheds. Results of this inventory will be presented in two series of reports covering (1) land and water use, and (2) water resources and water requirements.

The data on land and water use, together with land classification, are being published as the Bulletin 94 series; one for each hydrographic unit. This report covering the Eel River Hydrographic Unit is the eighth in the series. As the data relative to particular hydrographic units are published they become available for general studies and project investigations, not only by the department, but by all other parties concerned with the watersheds covered. When completed, this series of bulletins will provide detailed data for the whole State.

A second series of reports, each covering one or more hydrographic units, will include determinations of the available water resources and future requirements of those areas. The water resources will be determined from the records of older stream gaging stations, and a number of new stations, mainly on smaller streams not previously measured. The determination of water requirements will be based on land use patterns projected for specific points of time. These projections, in turn, will be based on the land and water use and land classification data, such as contained herein, and other available information.

Although the data developed by this inventory are to be used throughout the department's planning activities, they are most urgently needed for the staging of water projects. For this reason, the development of these data and their application to the timing of projects were combined in the Water Requirements and Project Staging program in 1961. Under this program, determinations of the quantities of water available, and the time,place, and magnitude of the future water needs of the entire State are combined in the formulation of a sequence of projects to meet those needs. An interim staging report will be published in 1963-64.

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THE RESOURCES AGENCY OF CALIFORNIA

DEPARTMENT OF WATER RESOURCES

1120 N STREET, SACRAMENTO

August 5, 1963

Honorable Edmund G. Brown, Governor
and Members of the Legislature
of the State of California

Gentlemen:

I have the honor to transmit herewith preliminary report Bulletin No. 94-8, the eighth of a series of reports of the Department of Water Resources which present detailed basic data relative to land and water use and apparent water rights within certain hydrographic units of the State. This report, entitled "Land and Water Use in Eel River Hydrographic Unit," presents results of studies conducted pursuant to legislation sponsored by Senator Edwin J. Regan and codified under Section 232 of the Water Code. This series, when complete, will form an invaluable reference of the water resources of the State in relation to the various classes and uses of land resources.

The data contained in this series of reports provide a basis for estimates of the amount of water which originates within each watershed, the amount which can be used beneficially within each area, and the amount of surplus or deficiency, therein. These estimates are being included in the staging of projects to develop most efficiently the water resources of the State.

The data presented in this bulletin will provide a factual basis for decisions of concerned interests regarding the development and use of water resources of the Eel River Hydrographic Unit. In addition, the bulletin includes notes on the history, natural features, climate and economy of the unit.

All public and private agencies, local interests, and individuals who may be concerned with the information presented herein are invited to submit their comments. A public hearing will be held after due notice to receive comments which will be considered in preparing the final report.

Sincerely yours,

William E. Warne

Director

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

EDMUND G. BROWN, Governor

HUGO FISHER, Administrator, The Resources Agency of California
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ACKNOWLEDGEMENT

The Department of Water Resources gratefully acknowledges information contributed by the various water users and residents of the Eel River Hydrographic Unit and agencies of the federal, state, and local governments.

Special mention is made of the helpful cooperation of Messrs. John Lenz, Joseph Borden, and William H. Brooks, III, Farm Advisors of Humboldt, Trinity, and Mendocino Counties, respectively, in conducting a review of information published herein.

While most of the photographs shown in this report were taken by photographers of the department, some were supplied through the courtesy of other agencies. The department expresses its appreciation to the State Division of Highways for the photographs reproduced in Illustrations Nos. 2 and 16; and to the Eureka Chamber of Commerce for the photograph in Illustration No. 3.

CHAPTER I. INTRODUCTION

This bulletin presents basic data on land and water use in the Eel River Hydrographic Unit, an area extending nearly 140 miles in a northwest-southeast direction between the sandy beaches around Humboldt Bay and the mountains of northern Lake County. The unit, which averages just over 30 miles in width, is delineated on Plate 1. It is composed mainly of the watershed of the Eel River, but also includes the smaller watersheds of the Mattole and Bear Rivers, and of a number of lesser streams flowing directly into the Pacific Ocean and Humboldt and Arcata Bays.

The data presented include descriptions of systems used to divert water from the various streams of the unit, together with historical and apparent water rights data, and the purpose and extent of use for each diversion. Also included for some diversions are the quantities of water diverted. Land use data and an estimate of the total consumptive use of applied water, for 1958, are also included. An exception to this is Cape Mendocino Subunit, for which the data were collected in 1959. Also included is a classification of lands within the unit as to suitability for irrigation and for potential recreational development. These data are prefaced by a general description and brief history of the hydrographic unit.

These basic data were gathered during the period 1958 to 1960 in compliance with Chapter 61, Statutes of 1956, as amended by Chapter 2025, Statutes of 1959, and codified in Section 232 of the Water Code of the State of California. This legislation provides for an inventory of water resources and water requirements of the State. This report is the eighth of a series of bulletins on land and water use to be prepared under this authorization. A review of the necessity for these studies,

together with the text of Section 232 and a discussion of its implications, are included in this bulletin as Appendix A.

These data will provide the basis for determination of the quantities of water that are required for potential future uses in the hydrographic unit, the extent to which local water supplies will meet such requirements, and the amounts of water which may be available for export from the various watersheds of the unit. These future determinations will be based on estimates of: (1) projected land use patterns, (2) economic patterns, (3) population, (4) industrial and agricultural development, and (5) recreational needs.

All the investigational work and findings accomplished under the inventory of water resources and water requirements legislation have been and will continue to be closely coordinated with other activities of the Department of Water Resources, the U. S. Bureau of Reclamation, the U. S. Corps of Engineers, and local water agencies.

A major project formulation study program being conducted by the department which pertains directly to the watersheds covered by this report, and which will utilize basic data presented herein, is the North Coastal Area Investigation. This is a comprehensive investigation directed toward the formulation of plans for future water resources projects within the large drainage basins of the North Coastal Region from the Russian River on the south to the Smith River on the north. The fundamental objective of this continuing program is the delineation of plans denoting the probable economically optimum development sequence for staged major water resources project units.

In implementation of the California Water Resources Development Act of 1959, the department is directed to provide such additional facilities

as may be required to meet contractual obligations. These additional conservation facilities will provide for the augmentation of the water supplies to be made available by the State Water Resources Development System as future depletions occur and as demands increase. Current studies, as well as previous studies made for the California Water Plan, indicate that the rivers of the North Coastal area will best provide these additional large supplies. These projects will be designed to meet future demands for new water service in both local and water deficient areas of the State. Under the multipurpose concept, concurrent consideration is given to protection against recurring floods, to development of hydroelectric power and water-associated recreational potential, to the preservation and possible enchancement of anadromous fisheries, and in a limited degree to water-oriented land management. As listed in Appendix B of this bulletin, a progress report on the North Coastal Area Investigation was published in May 1961.

Certain of the data presented in this bulletin have been reviewed in preliminary form by officials of Humboldt, Mendocino, and Trinity Counties and by local water users. Since its organization, the Humboldt County Water Study Committee has been kept informed of the progress and findings of the investigation for this bulletin.

Organization of Report

This bulletin is essentially a compilation of basic data on water use, land use, and land classification, in the form of tables and plates with explanatory text, and three appendixes containing supplementary data.

Chapter I contains a general description of the history, economy, and natural features of the Eel River Hydrographic Unit. Plate 1 relates to this chapter. It shows the location of the unit and the subunits into which it is divided, as well as the areas for which bulletins of this series or similar

reports are completed or are being prepared. Chapter II presents data on surface water diversion systems, including descriptive, historical, apparent water rights, and water use data; measurements of quantities of water diverted; and a summary of consumptive use. Chapter III describes the history of land use within the unit, and sets forth in tables the results of a survey of present land use. The 45 sheets of Plate 2, consisting of maps prepared in connection with Chapters II and III, delineate the locations of diversion systems and the areas of various land uses mapped in this investigation. Chapter IV includes a tabulation of lands classified with regard to their potential for irrigated agriculture and for recreational purposes. The 45 sheets of Plate 3, prepared for Chapter IV, delineate the respective classes of land grouped into several major categories. Chapter V summarizes the data presented in the report.

Appendix A presents the text of Section 232 of the California Water Code and a discussion of the pertinent responsibilities and work program of the Department of Water Resources. Appendix B is a bibliography of publications pertinent to the Eel River Hydrographic Unit. Appendix C presents a brief history and summary of California Water Law and a tabulation of applications to appropriate water within the unit.

The report is bound in three volumes. The text material, including the appendixes, constitutes Volume I. Volumes II and III consist of Plates 2 and 3, respectively. A copy of Plate 1 is included in each volume.

General Description of the Area

Location and Extent

The Eel River Hydrographic Unit extends nearly 140 miles in a northwesterly direction from its southern tip 10 miles northeast of Clear Lake to its northernmost point near the mouth of the Mad River, 10 miles north of Eureka. Though its maximum width is 40 miles, the average is about 3

TABLE 1

AREAS OF SUBUNITS IN
EEL RIVER HYDROGRAPHIC UNIT

Subunit	Glenn County	Humboldt County	Lake County	Mendocino County	Trinity County	Total	Total (in square miles)
	(in acres)						
Bell Springs	0	42,170	0	117,590	54,520	214,280	335
Black Butte River	39,600	0	2,160	62,100	0	103,860	162
Cape Mendocino	0	311,320	0	8,030	0	319,350	499
Etsel	0	0	220	163,920	0	164,140	257
Eureka Plain	0	141,250	0	0	0	141,250	221
Humboldt Redwoods	0	97,430	0	0	0	97,430	152
Lake Benbow	0	102,880	0	161,050	0	263,930	413
Lake Pillsbury	13,950	0	188,090	20,190	0	222,230	347
Larabee Creek	0	53,880	0	0	0	53,880	84
Laytonville	0	0	0	80,090	0	80,090	125
Lower Eel	0	137,080	0	0	0	137,080	214
North Fork	0	0	0	57,190	124,160	181,350	283
Outlet Creek	0	0	0	104,290	0	104,290	163
Round Valley	0	0	0	82,590	0	82,590	129
Sequoia	0	95,350	0	0	24,400	119,750	187
Van Duzen River	0	149,720	0	0	40,080	189,800	297
Wilderness	0	0	0	55,640	75,800	131,440	205
Willis Ridge	0	0	210	127,050	0	127,260	199
Yager Creek	0	84,640	0	0	0	84,640	132
Total	53,550	1,215,720	190,680	1,039,730	318,960	2,818,640	4,404
Percent of Total	1.9	43.1	6.8	36.9	11.3		

For convenience and utility in presenting the data, the unit has been divided into 19 subunits. The approximate boundaries of these subunits and that of the unit itself, are shown on Plate 1. The breakdown of the 4404-square-mile area by these subunits, and by the five counties involved, is given in Table 1.

On the coastal plain north of Arcata, the unit boundary representing the northern limit of the Eel River Hydrographic Unit, does not necessarily coincide with delineations used in other studies covering this area. The boundary used for this study, as shown on Sheet 1 of Plates 2 and 3, is located along the apparent drainage line as indicated by the topography shown on the U. S. Geological Survey Eureka quadrangle map, dated 1951.

Historical and Present Development

Exploration: The adjacent Pacific Ocean provided the means for the white man's discovery of the Humboldt region. The first recorded activity in the area of the Northern California Coast was that of the Spanish explorers, Juan Rodriges Cabrillo and Bartolome Ferrelo, in 1542 and 1543. These men explored the area immediately to the south of, but did not actually discover, the Humboldt region itself. Following this, there was a long period of little activity. In 1792, an Englishman, Captain George Vancouver, explored the Cape Mendocino area. In 1806, Captain Jonathan Winship entered Humboldt Bay, which was later to become the most important center of development in the entire area. During the time of Captain Winship, the only economic activities in the area were those carried on by fur traders of various nationalities.

Probably the most significant overland exploration in the early 1800's was that of Ewing Young, in 1833. Young, an American explorer, traveled

from the Sacramento Valley to a point on the coast some 75 miles north of Fort Ross, and thence northward to the Umpqua River in Oregon.

The discovery of gold in 1848 on the upper Trinity River was a key point in the history of Northwestern California. The development of mining brought about the establishment of overland supply routes to the goldfields. A desire to establish a seaport that would result in a shorter route to the mines precipitated intensive exploration of the Humboldt coastal area. The extremely narrow inlet, and adverse climatic elements, made it very difficult to locate a safe entrance to Humboldt Bay. Rediscovery of the bay in March of 1850, by Lieutenant Douglas Ottinger, set the stage for economic and social developments.

Early Development: By the end of 1850, several permanent settlements had come into being. Some of these were: Union Town, later named Arcata; Eureka, the last to be established, but later to become the economic center of the entire region; and Bucksport, a smaller community immediately south of Eureka. Union Town was the economic center for the period 1850-1856. The great Eel River country, both the stock-raising areas and the bay shore communities, underwent slow changes from 1851-1854.

In 1851, Trinity County including present Humboldt County, was organized with Weaverville as county seat. In 1853, the State Legislature divided Trinity County into two parts, designating the western portion as Humboldt County. Union Town, or Union as it was more commonly called, won the first election as county seat. However, Eureka was growing in prominence and competition between the two towns was intense. Following a series of contested elections, Eureka was designated the county seat by the State Legislature and incorporated in 1856. This insured Eureka's future as the political and economic center of the area.

At the time of the establishment of these early settlements, the principal contribution to the economy of the region was the packing trade to the Trinity mines. Within a few years, whale, shark, and salmon fisheries were flourishing. In 1854, flour and grist mills came into existence. In 1856 it is recorded that the first McCormick reaper was placed in operation in the area. Most important of all, however, was the establishment of the lumber industry in the early 1850's mainly around Humboldt Bay. The rapid growth of this industry has made it the most important of the Humboldt region.

The first population development in the southern portion of the unit began in the Little Lake Valley in the 1850's. It was here that Willits, the first permanent town in Mendocino County was founded in 1865. The growth of this community was also spurred by the establishment of lumber mills.

Present Economic Status: The Eel River Hydrographic Unit has an estimated 1,525,000 acres of commercial timberlands containing 38.2 billion board feet of commercial timber. This is more commercial timberland than is found in any other unit in the North Coastal Area and a volume of timber exceeded only by that in the Klamath River Hydrographic Unit. The commercial forest area is divided among the redwood, Douglas-fir, and mixed-conifer timber types. The redwood and Douglas-fir types are confined to the Humboldt and Mendocino County portions of the unit, while the mixed-conifer type extends into the commercial forests of the Trinity, Glenn, and Lake County portions.

For the first half of the Twentieth Century there was very little change in this industry, except for an occasional smaller mill being forced to close due to a shortage of private timber resources. Neither the boom of the 20's nor the depression of the 30's affected the inelastic demand

for redwood to any significant extent. The development of a large market for Douglas-fir lumber and plywood following World War II, provided the first means for utilizing untapped stands of fir timber. Consequently, from 1945 to 1955, the number of sawmills and the production of lumber increased tremendously. Production reached about one billion board feet in 1950 and by 1955 had increased to about 1.5 billion board feet at which level it seems to be stabilizing. By 1960 the value of the annual forest product output of the unit was somewhat over 150 million dollars.

The first Douglas-fir plywood plant in the State was built near Arcata in 1948. Over the next 12 years, seven more plants were placed in operation. This unit had by far the largest plywood production in California in 1959.

In 1957 the second particle board plant in the State went into operation near Arcata. Because this plant utilizes slabs and trimmings from surrounding mills, and is the first plant of any kind to do this, its importance to the industry is particularly significant.

Recreational resources are second in economic importance only to the forest products industry. The largest segment of recreational activities in the unit is forest-based, and there is little doubt that the redwood forests are the foremost recreational resource. There are more of these majestic, world-famous forests, both public and private, in the Eel River Hydrographic Unit than in any other hydrographic unit in the State. Visitations to the five Redwood State Parks were nearly two and a half million in 1961, doubling the number in 1959; and continued rapid increase is indicated. There are, however, other valuable recreational assets here. Among them are steelhead and salmon fisheries; big game hunting; the primitive splendor of the Yolla Bolly-Middle Eel Wilderness Area; and the undeveloped winter sports resources of the east-central portion of the unit.

Illustration 1.

Avenue of

the Giants

Illustration 2.

Virgin stand of

bottomland redwoods

This unit has a more intensively developed agricultural economy than most of the neighboring units. In 1953 there were an estimated 88,000 acres of developed agricultural lands, not including range lands. The current survey made for this report shows very little change in acreage, emphasizing the intensity of development. Estimates of gross sales of farm products vary annually between ten and eleven million dollars. In addition to actual on-farm production, there are two dairy products plants near Fortuna and a woolen textile mill in Eureka. The annual value added by these plants amounts to approximately three million dollars, thus bringing the total agricultural gross sales to about $13,000,000 annually.

Another significant industry in the unit is the commercial fishing activity, all of which originates from the Eureka area. It is therefore of local importance in the Eureka-Fields Landing area on Humboldt Bay. The average, estimated sales value of the catch between 1948 and 1958 was $1,715,000, and the average catch weight was about 21,750,000 pounds. In addition to the fishing activities, there are several fish processing plants and an oyster packing plant, all of which add several million dollars annually to the economy and employ an average of 400 persons.

Mineral commodities are not a major economic consideration in this unit. Sand, gravel, stone, and natural gas are the only highly developed minerals. Six other minerals found in smaller commercial quantities are clay, limestone, manganese, chromite, copper, and jade. There has been intermittent small-scale production of these six, but they are generally undeveloped and largely in very inaccessible locations.

In 1950 an estimated $380,000 was expended for mineral commodities produced within the unit. Gross sales continued to increase until 1957 to an estimated peak of $1,600,000, largely as a result of maximum road

construction activities consuming large amounts of aggregates. In 1958, sales declined to $1,100,000 because of aggregate sales decreases, and in 1959 declined further to $860,000 because of gas output decreases.

Water resources in the Eel River Hydrographic Unit in excess of its present water requirements are largely undeveloped. However, in the extreme southern portion of this unit, the Lake Pillsbury-Van Arsdale Dam system is operated to export water for power development. In recent years the quantity of Eel River water diverted through this system and exported to the Potter Valley Power House has been about 180,000 acre-feet per year. Much of this water is also used for irrigation downstream in the Russian River Basin.

Natural Features

Topography and Geology: The unit is composed of rough, stream-dissected terrain except for a few small inland valleys and the flat coastal plain which includes Humboldt Bay and the mouth of the Eel River. The predominant topography consists of northwest-trending longitudinal ridges and valleys which are a reflection of a similar trend in the geologic structure and stratification of various rock types. The major tributaries and most of the main stem of the Eel flow in the northwest-southeast trending valleys following along fault zones and other zones of rock weakness. In transecting longitudinal ridges, the eastern tributaries flow toward the west or southwest through narrow canyons to join the main stream. The watershed has thus developed, due to the geologic structure and variation in rock types, a modified trellis-type drainage pattern. The main stem and the Middle and North Forks of the Eel River all start toward the south or southeast, practically the opposite of the rivers ultimate course. The

llustration 3.
ndustrial area
t Eureka

Illustration 4.
Commercial
fishing boats
at Eureka

5,000- to 7,500-foot heights along the backbone of the Coast Range are the fountainhead of these three branches of the unharnessed and frequently destructive river.

The area is also characterized, except in the higher elevations, by numerous landslides on the hill slopes. This is a combined result of instability of the weak rock units and the high annual rainfall. Some of the more resistant rock units form scattered knob-like bodies.

Rock types occurring throughout most of the unit are assigned to the Franciscan geologic formation. The Franciscan formation includes a wid variety of rock types including sandstone, shale, volcanics, chert, greenstone, and serpentine. These rocks, since the time of their formation in an ancient sea, have been severely folded, faulted, and crushed by mountain building activity. Several ground water basins have been formed in the Franciscan rocks as a result of downfaulting of large blocks and a partial filling of the depressions with alluvium and lake deposits. Significant among these are Round Valley, Little Lake Valley, and Laytonville Valley.

Rock types in the lower Eel River valley between Scotia and the ocean are of a much younger series of sediments. They are in part water-bearing and form an important ground water basin. These sediments, except for the alluvial flood plain deposits near the coast, have been folded into an east trending synclinal trough through which the lower Van Duzen and Eel Rivers flow. Ground water supplies in all ground water basins are partiall derived from inflow of stream runoff.

Soils: The detailed chemical and physical characteristics of the soils of the Eel River Hydrographic Unit are widely varied. This condition is due to the great variety of parent materials, vegetation, topography, climatic conditions, and soil age. In general, the soils may

be divided into two broad groups in accordance with their mode of formation: (1) Residual soils which have developed in place by the disintegration and weathering of the underlying bedrock; and (2) Alluvial soils which have been formed from transported sediments of pre-existing soils and other materials.

In the immediate vicinity of Humboldt Bay, where the largest acreages of irrigable lands occur, most of the soils in the lowest physiographic position are deep, well-drained, and medium-textured, formed from recently deposited flood plain material. Occurring in the same position, but much less significant in extent, are fine-textured soils with very poor surface and subsoil drainage characteristics. These soils were formed from materials deposited by slowly moving flood waters. Lying in a higher position, but having relatively flat to rolling relief, are large bodies of soil formed from older alluvial material. As might be expected, these soils have well developed profiles and to a large extent, restricted rooting depth. Due to uplifting and stream dissection, these lands have the appearance of terraces. The Table Bluff area and the immediate vicinity of Eureka are examples of this condition. There are smaller areas of very coarse-textured soils along the rivers and near the ocean. Relatively shallow residual soils occur on the steeper lands along the eastern boundaries of the alluvial soils.

The second largest body of irrigable land in this hydrographic unit is located in Round Valley. About 50 percent of this relatively flat valley floor has deep, well-drained soils of medium texture. Most of the remainder has medium-textured soils with restricted rooting depth. These latter soils are found mainly in a lower physiographic position than the former. In addition to having fine-textured subsoils, they are subjected

to high water table conditions. Along the streams entering the valley are small acreages of coarse-textured soils. The edges of the valley floor are rolling and rather steep with shallow residual soils.

The relatively flat lands in the vicinity of Laytonville have deep, medium-textured soils for the most part. The soils of the rougher and more rolling lands are shallow.

In the Willits area about half of the flat lands have deep, well-drained soils. The remainder are shallow and/or subject to a high water table. As in the other relatively large valleys, bodies of rolling to steep land, with predominantly shallow soils, occur around the periphery.

Throughout this hydrographic unit are a number of smaller bodies of irrigable lands. Some exist in long narrow valleys such as the Sherwood Valley, immediately south of Laytonville. Some are the result of recent depositions along the larger streams, such as the Eel River flood plains at Scotia and Garberville and the Mattole River plain at Petrolia. The soils in these areas are usually medium-textured, deep, and well-drained, with the topography nearly flat to gently rolling.

Climate

A wide variation of climate occurs within the 4,404 square-mile area of the Eel River Hydrographic Unit. Moderate seasons are typical of the northern coastal section; and variable, generally more severe seasons are common to the inland valleys. In the coastal area the predominant influence on the climate is the moist air mass over and near the ocean. This air mass, and the overcast or fog generally associated with it, due to the onshore winds, have a great moderating effect on the climate of the coastal area. The inland portion of the unit, which is more removed from this oceanic influence, is comparatively free from this moderating

effect. This inland area is subject to a wider range of temperature variation, both daily and seasonal, than the coastal area.

Average annual precipitation within the unit varies from about 35 inches per year on the coastal plain at Eureka to about 115 inches per year on Monument Ridge south of Scotia. About 86 percent of the average seasonal precipitation occurs between November 1 and April 30. In the vicinity of the coast, there is generally a measurable amount of precipitation in every month of the year, while rainfall during the summer months is somewhat of a rarity in the inland valleys. At Dos Rios, for example, rainfall has been recorded during the months of July or August in only nine of the 40 years that the precipitation gage has been in operation. Average snowfall at precipitation stations within the unit varies from less than one inch on the coastal plains to about 45 inches at Bridgeville (Hanson Ranch). The average lowest elevation at which there is snow on the ground on April 1 is about 4,000 feet.

Maximum and minimum recorded seasonal precipitation and estimates of the 50-year mean seasonal precipitation at selected stations within or adjacent to the Eel River Hydrographic Unit are shown in Table 2. The extremes shown are the highest and lowest seasonal precipitations observed during the period of record indicated for each station. The 50-year mean seasonal values are estimates, except the recorded quantities shown for the Eureka, Ukiah, and Upper Mattole Stations, of the average depth of rainfall which would have been observed at these stations if they had been active during the base period 1905-06 through 1954-55. It is considered that these mean values are representative of the long-term mean seasonal precipitation available to the unit.

For one station listed in Table 2, Honeydew 2WSW, the 50-year mean was not computed because the years of record available, 1954-60, constitute a

TABLE 2

RECORDED EXTREME AND ESTIMATED MEAN
SEASONAL PRECIPITATION AT SELECTED STATIONS IN
OR NEAR EEL RIVER HYDROGRAPHIC UNIT
(In inches)

Station	Elevation (in feet)	Annual precipitation			Years of record used
		Maximum	Minimum	Estimated 50-year mean	
Alderpoint	435	80.38 (1957-58)	33.84 (1943-44)	47.07	1941-1960
Branscomb	2,000	132.62 (1903-04)	46.12 (1919-20)	76.81	1901-1923, 1933-195
Covelo	1,390	72.60 (1937-38)	16.66 (1923-24)	38.18	1883-1895, 1915-192 1936-1939, 1944-196
Cummings	1,324	113.92 (1957-58)	45.30 (1930-31)	70.14	1927-1960
Dos Rios	927	90.07 (1957-58)	17.79 (1923-24)	45.09	1921-1960
Eureka, W. B.	43	74.10 (1889-90)	20.72 (1923-24)	36.66	1878-1960
Honeydew 2WSW	400	174.40 (1957-58)	84.85 (1956-57)	----	1954-1960
Mina 3 NW	2,875	98.83 (1957-58)	21.75 (1930-31)	54.16	1927-1960
Scotia	139	72.48 (1957-58)	25.48 (1930-31)	45.93	1927-1960
Willits NWPRR	1,365	97.16 (1957-58)	18.55 (1923-24)	50.61	1912-1946, 1954-195
Forest Glen	2,340	102.46 (1957-58)	36.59 (1930-31)	57.73	1930-1960
Korbel	180	79.96 (1937-38)	36.18 (1946-47)	51.50	1938-1960
Ukiah	623	60.48 (1889-90)	16.19 (1923-24)	35.06	1878-1960
Upper Mattole	255	134.92 (1889-90)	34.07 (1923-24)	76.41	1887-1960
East Park Reservoir	1,205	42.43 (1940-41)	5.64 (1938-39)	17.82	1910-1960
Paskenta Ranger Station	755	44.21 (1940-41)	12.05 (1945-46)	21.52	1938-1960

rather short and abnormally wet base for this purpose. This station is included as a matter of interest because the 174.40 inches recorded there in 1957-58 is the highest seasonal precipitation ever recorded at any station in California.

The climate of the Eel River Hydrographic Unit is generally illustrated by the temperature data presented in Table 3. These data, with the exception of the frost-free period values, were taken from the "Climatic Summary of the United States -- Supplement for 1931 through 1952," Bulletin W, published by the U. S. Weather Bureau. The values for the frost-free period were derived by the Department of Water Resources, and represent the average period between the last day in spring and the first day in fall when the daily minimum temperature fell below 32 degrees Fahrenheit.

TABLE 3

TEMPERATURE DATA AT SELECTED STATIONS
IN OR NEAR EEL RIVER HYDROGRAPHIC UNIT
(In degrees Fahrenheit)

Station	Elevation (in feet)	Average temperature			Extreme temperature		Average daily variation	Frost-free period (in days)
		Jan.	July	Annual	High	Low		
Alderpoint	435	43.9	72.7	58.2	112	16	28.4	202
Covelo	1,390	40.0	74.6	56.4	111	7	32.3	168
East Park Res.	1,205	42.9	77.1	58.8	112	3	31.5	200
Eureka	43	47.0	55.6	51.6	85	20	10.8	318
Forest Glen	2,340	36.9	68.3	51.6	107	-2	31.7	141
Fort Bragg	80	47.5	56.6	52.9	90	24	16.6	277
Potter Valley P.H.	1,014	44.9	73.4	58.4	111	14	32.4	---
Scotia	139	47.8	61.1	55.1	102	17	15.5	286
Stony Gorge Res.	770	43.2	79.4	60.3	115	5	28.5	---
Ukiah	623	45.1	72.4	57.9	114	12	31.7	211

Water Resources

The Eel River Hydrographic Unit, like most parts of the North Coastal Area, has a water supply far in excess of its present requirements. The mean annual runoff is about 8,080,000 acre-feet, or 2.87 acre-feet per acre. Of this total, about 78 percent occurs within the Eel River drainage, including that of the Van Duzen River; about 19 percent in the Cape Mendocino stream group, mainly the Mattole and Bear Rivers; and the remaining 3 percent in the several small streams draining into Humboldt and Arcata Bays.

Table 4 presents a summary of the runoff data for the U. S. Geological Survey Stream Gaging Station, "Eel River at Scotia." This station records streamflow from approximately 71 percent of the area and is considered to be representative of the runoff conditions.

TABLE 4

SUMMARY OF RUNOFF DATA
EEL RIVER AT SCOTIA

Item of Record	Acre-feet	Cubic feet per second	Percent of average
Mean seasonal runoff for period of record	5,063,000	6,994	100
Runoff of maximum year of record, 1957-58	11,476,800	---	227
Runoff of minimum year of record, 1923-24	814,000	---	16
Maximum instantaneous flow of record, December 22, 1955	---	541,000	---
Minimum instantaneous flow of record, August 12-14, 1924	---	10	---

Period of record -- October 1910-January 1915, October 1916-September 1960.

The bulk of nonagricultural water use is concentrated about Humboldt Bay. This supply is derived from both ground and surface water sources. With

the full utilization of water available from the Ruth Dam Project on Mad River, surface water will constitute a much higher proportion of the supply than it does at present.

Probably of greater urgency to the unit than further development of its water resources for beneficial uses, is the need for controlling the high winter runoff. However, the magnitude of the projects that would be needed to provide flood control for the area generally lack economic justification to construct at the present time. The increasing demand for recreational water development and the need to develop export projects will, however, contribute heavily toward their justification in the not too distant future.

Local Public Agencies Concerned with Water Development

A number of local public agencies are engaged in water development in the Eel River Hydrographic Unit. Most of these are water service agencies organized to serve municipal water systems. The largest of these is the Humboldt Bay Municipal Water District, which has completed its Ruth Dam on Mad River and will in the future provide a greatly increased supply for industrial and general growth in the area surrounding the bay. Three other public agencies engaged in development are the incorporated Cities of Eureka, Fortuna and Arcata. The Eureka system is supplied by water imported from the Mad River. Fortuna obtains all its water from wells in the immediate vicinity of the town. Arcata obtains most of its water from wells near the Mad River, but also a considerable amount from four surface water diversions on streams tributary to Arcata Bay. There are two other small agencies operating in the vicinity of Humboldt Bay, Reclamation District 768 and Humboldt Community Services District. Two

larger agencies have filed applications with the State Water Rights Board for future use of water from upstream portions of the Eel River watershed. These are the Round Valley County Water District and Sonoma County Flood Control and Water Conservation District.

The Counties of Humboldt, Lake, Mendocino, and Trinity, as members of the Eel River Flood Control and Water Conservation District, participate in the study of water problems directly concerning the unit. Humboldt, Mendocino, and Trinity Counties, in which nearly all of the developed lands of the unit are located, are particularly concerned, and have assisted in review of much of the data in this report.

CHAPTER II. WATER USE

This chapter reports the data obtained in a survey of the diversion and use of water from surface sources in the Eel River Hydrographic Unit. The location of water wells and the measurement of their production are not within the scope of this investigation. However, the areas of all irrigated lands were determined and are reported in Chapter III. Present water requirements of Eel River Hydrographic Unit are met about 40 percent by diversion of surface water, and the remainder by pumping of ground water.

Survey data relative to the 212 surface water diversion systems studied and reported herein include: the locations and descriptions of the systems; the uses served by them; the water rights upon which they apparently are based; and pertinent historical facts. Also included for some diversions are the monthly quantities of water diverted. The data presented are as of the year 1958, except for Cape Mendocino Subunit, where the year of study was 1959. The criterion for inclusion of individual diversions in this report is whether or not they divert 10 acre-feet or more per year. Small diversions omitted on this basis are mainly ones which serve one or a few domestic users.

A summary of the diversions studied, classified by purposes served, is given in Table 5. It should be noted that only about half the diversions were measured, and therefore the quantities shown do not constitute the total surface water diverted. It may be seen from the table that all but about 15,000 acre-feet of the water measured was for export from the unit. Taking into account estimates of unmeasured diversions, based on population, irrigated acreages, etc., and the import for the City of Eureka, it is believed that the foregoing 15,000 acre-feet is somewhat less than half of the applied surface water for all purposes within the unit.

TABLE 5

SUMMARY OF USE AND MEASUREMENTS
OF SURFACE WATER DIVERSIONS IN
EEL RIVER HYDROGRAPHIC UNIT

Numbers of diversions			Diversion measurements	
Total number	Number active	Major purpose	Number measured	Quantity diverted (in acre-feet)
140	133	Irrigation and/or stockwatering	84	5,241
34	34	Municipal and/or domestic	14	3,026
19	19	Industrial	7	1,506
9	8	Hydroelectric power	5	428
8	8	Recreation and/or fish culture		4,879
2	2	Export for use outside the unit*	2	186,350*
212	204	TOTAL	112	201,430

*Includes an estimated 7,400 acre-feet evaporated from Lake Pillsbury.

Water Rights

The nature and extent of all rights pertaining to the water supply of an area are an important consideration in the determination of the total water requirements of the area. This report, therefore, includes information about water rights in general, but particularly about rights of record within the Eel River Hydrographic Unit.

Most of the surface water diversions in the Eel River Hydrographic Unit are based on riparian rights or on appropriative rights established under the provisions of the Water Commission Act of 1914. A smaller amount is diverted under appropriative rights established prior to 1914 by filings made with the counties concerned. A brief explanation of these types of

rights is included in Appendix C of this report, together with a general sketch of the California Law of Water Rights as related to both surface and underground waters. A tabulation of data relative to the applications on file with the State Water Rights Board is presented in Table C-1 of Appendix C. Data pertaining to the apparent water rights exercised by the diversions described in this report are presented with the other diversion data in Table 6.

As of November 23, 1962, there were on file with the State Water Rights Board a total of 234 applications to appropriate water from the streams of the unit. All but 18 of these applications were for use within the unit to provide for a total of about 33,740 acre-feet of storage per annum and for direct diversion of about 153 cubic feet per second.

Of the remaining 18 applications on file, 13 were held by the California Water Commission under provisions of Section 10500 of the California Water Code for storage and use of up to 14,770,000 acre-feet annually. Future projects to develop this water will serve a variety of purposes both locally and outside the unit. According to Sections 10505 and 12640 of the Water Code, generally known as the "Counties of Origin" Statutes, water originating within a county and needed for its ultimate development will not be taken therefrom. The future water requirements of local service areas are, therefore, given prime consideration in the long-range planning of major projects within the watersheds of the North Coastal Area.

The other five applications on file were for use outside the unit of water stored and diverted by the Lake Pillsbury-Van Arsdale complex on the upper Eel River. Three of these applications have been licensed and are held by the Pacific Gas and Electric Company: one to store 102,366 acre-feet annually for power generation at Potter Valley powerhouse; and two for storage of 19,000 acre-feet of this water for rediversion below the powerhouse and use

for irrigation in the Potter Valley Irrigation District. The other two applications were incomplete on the above date. They are held by the Sonoma County Flood Control and Water Conservation District. They would provide for storage and export of excess water from the Pillsbury-Van Arsdale system for various purposes in the district's service area.

Surface Water Diversions

Since in most areas the smallest parcel of land which can be delineated is approximately that which requires 10 acre-feet of water per year for irrigation, systems which divert less than this amount are generally not included. In this unit, however, in order to report correctly the water supplies for all the irrigated lands which were mapped, a number of systems diverting less than 10 acre-feet were located and included.

Due to the fact that very few diversion systems were previously mapped, an intensive search of the unit by department personnel was necessary. A list of the appropriative water rights and aerial photographs of the entire unit, which showed irrigated lands, log ponds, etc., were the principal guides in this process. Investigation of various water-using activities and such visible clues as powerlines and conduits, and the canvassing of residents were also the means of locating many diversions. Data such as descriptions of the systems, uses served, water rights, histories, etc., were obtained through on-the-spot inspection and interview with the owner, operator, or other person familiar with each diversion. Some data thus obtained, particularly statements with regard to histories, were not verified since a search of title records and similar sources was not deemed to be within the scope of this investigation. The location of each diversion was identified and plotted on the pertinent photograph and transferred to the U. S. Geological

Survey quadrangle map. These were used to identify the locations as explained in the following section.

Systems for direct diversion of water, as well as those providing for storage, were located. Those currently in use, and also those used within the previous five years, unless reported to be abandoned, were included. Reservoirs which had surface areas of about 3 acres or more were mapped. This size was considered the minimum area that could be delineated on the aerial photographs used. Reservoirs located along, and operated in conjunction with, ditches and pipelines are shown on the land and water use maps, but are not considered as separate systems, nor are they assigned diversion locations. Similarly, points at which diversion conduits intercept minor intermittent streams, and receive less than 10 acre-feet of water in addition to the primary supply, are not considered as separate diversions.

A system by which field runoff and/or spill from a diverter's own operation is collected is not considered a diversion nor assigned a diversion location. If return flow from another water user's operation is rediverted, or if there is doubt as to the origin of the water, the diversion is delineated and assigned a location. Diversion systems of water companies or groups of water users are considered as single units. Individual customer distribution points are not shown on the maps.

Diversion points and main ditches or pipelines used to convey water from them are delineated on the 11 sheets of Plate 2, "Land and Water Use." The diversions are listed and described in Table 6.

Location System for Surface Water Diversions

For purposes of identification, each surface water diversion is assigned a diversion location number by relating its position plotted on the

Illustration 5.
Water sports and
golf course at
Lake Benbow

Illustration
Lake Pillsbur
and
Scott Dam
Diversion
D-18N/10W-23D

photograph to the U. S. Geological Survey quadrangle map of the area. Each diversion number includes the township, range, and section number in the federal land survey system where the diversion apparently is situated. The sections are sub-divided into 40-acre plots (quarter-quarter sections), and these are indicated in each diversion number by a letter following the section number. For example, diversion D-3S/5E-10A1, shown on Sheet 17 of Plate 2 labeled "10A1" is in the northeast quarter of the northeast quarter of Section 10, Township 3 South, Range 5 East, Humboldt Base and Meridian (H.B.&M). A second diversion in a 40-acre plot is distinguished by replacing the final number "1" with a "2", as for diversion D-3S/5E-10A2. Each sheet of Plate 2 shows an example of a subdivided section with a diversion plotted.

Two diversions, numbered D-24N/13W-Tr54N1 and D-24N/14W-Tr67H1, in North Fork Subunit, are located in "Tracts" 54 and 67 in the 19-mile long irregularly numbered area east of the Eel River and south of the North Fork. These parcels correspond to sections; but have been called "Tracts", indicated by the "Tr" in the diversion numbers, to distinguish them from normal sections because they are among some 84 parcels in this area numbered in a unique manner.

Descriptions of Surface Water Diversions

The descriptions, histories, water rights, and other information relating to surface water diversions are summarized in Table 6. Data in the table are arranged by the order of the diversion numbers within respective subunits. Each diversion number is followed by the name of the diversion and/or owner; the source; the purposes served; the quantity of water diverted during 1958 or 1959, if measured; and the extent of use, such as the number of acres irrigated, etc. If a diversion did not serve its usual purpose in the year of survey, this fact is noted in the "remarks" column. The extent of domestic use is specified only when five or more connections are served.

TABLE 6

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958[μ]			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						Bell Springs Subunit					
H B & M											
D-3S/5E-34N1 (Sheet 17)	M. & M. Lumber Company	Mill Creek	Domestic Indust.	25 connections Log pond	Not meas.	Approp.	0.13 cfs 20 af storage	A-17133[a,e]	1956	Gravity: 3,000 feet of 6-inch pipe to storage tanks and filter plant.	
D-4S/6E-7Q1 (Sheet 21)	Dean Witter	Spring tributary to Eel River	Irrig. Domestic	2 acres by sprinkler (b)	Not meas.	Riparian	--	--	About 1880	Gravity: 2,300 feet of 3-inch pipe to distribution system.	Former owner: Floyd Witter.
D-4S/7E-19G1 (Sheet 21)	Dean Witter	Kekawaka Creek	Irrig.	33 acres by sprinkler	51	Approp.	1.0 cfs	A-13948[a]	1950	Pump: gasoline engine with direct connection to portable sprinkler system.	Former owner: Potter.
D-5S/5E-27N1 (Sheet 24)	D. R. Drewry	Springs tributary to Drewry Creek	Stock. Recr.	60 head Fishing	Not meas.	(c)	--	--	1955	Storage: earth dam 15 feet high, 10 feet long, with 12-acre-foot reservoir.	
D-5S/7E-8K1 (Sheet 24)	Floyd McEwen	Tributary to Kekawaka Creek	Irrig.	4 acres by flooding	Not meas.	Riparian	--	--	Prior 1928	Gravity: earth and rock dam 1 foot high, 3 feet long, with short earth ditch to area of use.	Former owner: James Gummer.
D-5S/7E-8L1 (Sheet 24)	Floyd McEwen	Springs tributary to Kekawaka Creek	Power*	3 kw	Not meas.	Approp.	50 MI	Book 3,[d] page 73	Prior 1914	Gravity: concrete dam 3 feet high, 8 feet long, with about 1,800 feet of 4-inch pipe to powerplant.	Former owner: L. McEwen. Used for power since 1956, formerly used for irrigation.
D-5S/7E-29P1 (Sheet 24)	Dean Witter	Spring tributary to Horse Ranch Creek	Power Irrig. Domestic	2.5 kw 25 acres by sprinkler (b)	109	Riparian	--	--	1950	Gravity: concrete dam 3 feet high, 8 feet long, with 0.5 mile of 4-inch main to sprinkler distribution system.	
						Black Butts River Subunit					
M D B & M											
D-22N/9W-26Q1 (Sheet 33)	United States Mendocino National Forest	Tributary to Plaskett Creek	Domestic Recr.	Campground Fishing	Not meas.	Approp.	650 gpd 20.9 af storage	A-16301[a]	Prior 1949	Storage: earth dam 28 feet high, 210 feet long, with 20-acre-foot reservoir.	
D-22N/9W-35B1 (Sheet 33)	United States Mendocino National Forest	Tributary to Plaskett Creek	Domestic Recr.	Campground Fishing	Not meas.	Approp.	650 gpd 0.3 af storage	A-16300[a]	1955	Storage: earth dam 24 feet high, 160 feet long, with 9-acre-foot reservoir.	
						Cape Mendocino Subunit					
H B & M											
D-1N/2W-21A1 (Sheet 7)	William E. Lowery	South Fork Bear River	Irrig.	12 acres by sprinkler	4	Riparian	--	--	1875	Pump: 15-hp electric motor with 0.3 mile of 6-inch pipe.	Former owners: Captain Foss, Fafette Morrison, George Morrison, Wallace Groom.
D-1N/3W-14F1 (Sheet 7)	Joseph E. Zanone	Bear River	Irrig. Stock.	6 acres by sprinkler 10 head	Not meas.	Riparian	--	--	1959	Pump: 10-hp electric motor with direct connection to distribution system.	
D-1N/3W-23C1 (Sheet 7)	Donald P. Coombe and Prescott Branstetter	Tributary to Pacific Ocean	Recr.	Fishing and duck hunting in reservoir	Not meas.	(c)	--	--	1940	Storage: 2 earth dams.	

μ - Cape Mendocino Subunit only, water use in 1959.
* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1959			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
H B & M					Cape Mendocino Subunit (Continued)						
D-2N/3W-13H1 (Sheet 5)	Henry C. and Aida M. Barri	Fleener Creek	Irrig. Stock.	14 acres by sprinkler 50 head	Not meas.	Approp.	0.14 cfs	A-16787[a]	1948	Gravity and pump; concrete dam 8 feet high, 50 feet long and a 7-1/2-hp electric motor with 0.3 mile of 6-inch steel pipe.	Former owner: Simon V. Smith.
D-1S/2W-28R1 (Sheet 10)	Joseph R. Cook	North Fork Mattole River	Irrig.	57 acres by sprinkler	133	Approp.	0.86 cfs	A-15220[a,e]	1953	Pump; 30-hp electric motor with 0.5 mile of 6-inch pipe.	
D-1S/2W-33J1 (Sheet 10)	Joseph R. Cook	North Fork Mattole River	Irrig.	22 acres by sprinkler	44	Approp.	0.43 cfs	A-14538[a]	1951	Pump; 15-hp electric motor with 0.2 mile of 6-inch pipe.	
D-2S/1W-28P1 (Sheet 13)	Wesley C. Roscoe	Pritchett Creek	Irrig.	21 acres by sprinkler	48	Riparian	--	--	1950	Pump; 10-hp electric motor with direct connection to distribution system.	
D-2S/1W-30C1 (Sheet 13)	Louis F. Adams	Mattole River	Irrig.	28 acres by sprinkler	54	Approp.	0.35 cfs	A-15116[a]	1952	Pumps; two 7-1/2-hp electric motors with 0.3 mile of 6-inch pipe.	
D-2S/1W-30D1 (Sheet 13)	Belle Miner	Mattole River	Irrig. Stock.	7 acres by sprinkler 40 head	13	(c)	--	--	1954	Pump; 7-1/2-hp electric motor with 400 feet of 3-inch pipe.	
D-2S/1W-34E1 (Sheet 13)	Wesley C. Roscoe	Mattole River	Irrig.	35 acres by sprinkler	72	Riparian	--	--	1957	Pump; 25-hp electric motor with 1,700 feet of 6-inch pipe.	
D-2S/1W-34K1 (Sheet 13)	R. P. Lumber Company	Mattole River	Indust.	Lumber mill	941	Approp.	0.7 cfs 35 af storage	A-15089[a]	1952	Pump; 40-hp electric motor with 500 feet of 10-inch pipe.	Former owner: Van Worth Lumber Company.
D-2S/2W-10C1 (Sheet 13)	John L. Chambers	Mattole River	Irrig. Stock.	90 acres by sprinkler 140 head	Not meas.	Approp.	1.5 cfs	A-14256[a,e]	1951	Pump; 50-hp electric motor with 3,200 feet of 6-inch pipe.	
D-2S/2W-11D1 (Sheet 13)	Lloyd Roberts	Mattole River	Irrig. Stock.	43 acres by sprinkler 350 head	24	Approp.	300 gpm	A-14509[a,e]	1951	Pump; 10-hp electric motor with 2,000 feet of 4-inch pipe.	
D-2S/2W-24E1 (Sheet 13)	Harold Lawrence	Mattole River	Irrig. Stock. Domestic	(*)	23*	(c)	--	--	1956	Pump; 10-hp electric motor with 800 feet of 3-inch pipe.	Details of use reported under D-2S/2W-24L1. Amount diverted supplements D-2S/2W-24L1.
D-2S/2W-24L1 (Sheet 13)	Harold Lawrence	Mattole River	Irrig.* Stock. Domestic	48 acres by sprinkler 300 head (b)	71*	(c)	--	--	1956	Pump; 15-hp electric motor with 6-inch pipeline.	Purposes reported and amount diverted received supplemental supply from D-2S/2W-24E1.
D-3S/1W-1F1 (Sheet 16)	Hill and Martin, Incorporated	Mattole River	Indust. Domestic	Lumber mill 33 connections	Not meas.	Riparian	--	--	1954	Pump; 60-hp electric motor with 0.4 mile of 5-inch pipe.	

* - See remarks.

For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958[μ]			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Cape Mendocino Subunit (Continued)						
H B & M											
D-3S/1W-1H1 (Sheet 16)	Joseph N. D. Rindley (deceased)	Mattole River	Irrig.	25 acres by sprinkler	97	Approp.	1 cfs	A-15385[a,*]	1951	Pump; 30-hp electric motor directly connected to distribution system.	Application 15385 revoked November 1960.
D-3S/1W-2E1 (Sheet 16)	Ray Emmett Hunter	Mattole River	Irrig.	44 acres by furrow and sprinkler	79	Approp.	1.5 cfs	A-16654[a]	1955	Pump; 40-hp electric motor with 2,820 feet of 6-inch pipe.	
D-4S/2E-6P1 (Sheet 19)	Lee French	Bear Creek	Irrig. Stock.	7 acres by sprinkler 15 head	46	Approp.	0.17 cfs	A-11527[a]	About 1935	Pump; gasoline jeep engine with 100 feet of 4-inch pipe and 650 feet of 6-inch pipe.	Former owner: R. D. Sutherland. Diversion previously located upstream from present location.
D-5S/2E-9E1 (Sheet 23)	Robert Crerar	Mattole River	Irrig.	34 acres by sprinkler	Not meas.	Approp.	0.33 cfs	A-14026[a,*]	1949	Pump; 25-hp electric motor with 1,000 feet of 5-inch pipe.	Application 14026 revoked August 1959.
D-5S/2E-22C1 (Sheet 23)	M. and C. Lumber Company	Mattole River	Induet.	Lumber mill	3	Riparian	--	--	1953	Pump; 25-hp electric motor with 200 feet of 4-inch pipe.	
D-5S/2E-22P1 (Sheet 23)	Bruno Grotb and Robert Usber	Thompson Creek	Irrig. Stock. Domestic	11 acres by sprinkler 25 head (b)	Not meas.	(c)	--	--	1941	Pump; 3-hp electric motor with 400 feet of 2-inch pipe and 1,000 feet of 1-1/2-inch pipe.*	Hydraulic ram replaced by present system in 1955.
					Eisel Subunit						
					(No diversions located in this subunit.)						
					Eureka Plain Subunit						
H B & M											
D-3N/1W-9E1 (Sheet 3)	D. Baseey	Salmon Creek	Irrig. Stock.	25 acres by sprinkler 30 head	Not meas.	Riparian	--	--	About 1949	Pump; 10-hp electric motor with direct connection to distribution system.	Former owner: Pierpoint.
D-4N/1E-3D1 (Sheet 3)	Freshwater Water System; Georgs J. Cole	McCready Gulch	Munic.	20 connections*	Not meas.	(c)	--	--	About 1935	Pump; 2-hp electric motor with 1-1/2-inch pipeline to, two 7,000-gallon tanks.	Received supplemental supply from ground water.
D-4N/1W-9H1 (Sheet 2)	H. E. Reardon	Swain Slough	Irrig. Stock.	32 acres by sprinkler 78 head	Not meas.	Riparian	--	--	1957	Pump; 15-hp gasoline engine with direct connection to distribution system.	
D-4N/1W-9J1[e] (Sheet 2)	Wendell O. Clauseo	Spring tributary to Elk River	Irrig.	10 acres by sprinkler	Not meas.	Riparian	--	--	About 1949	Pump; 5-hp electric motor with direct connection to distribution system.	Former owner: R. H. Smith. Superseded in 1959 by a diversion from Elk River. Under application 18018.[e]

μ - Cape Mendocino Subunit only, water use in 1959.
a - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Eureka Plain Subunit (Continued)						
H B & M											
D-4N/1W-15C1 (Sheet 2)	E. Phillip Wrigley	Orton Creek	Irrig.	6 acres by sprinkler	Not meas.	Approp.	12,000 gpd	A-17910[a]	1957	Pump; 5-hp gasoline engine with direct connection to distribution system.	
D-4N/1W-15D1 (Sheet 2)	Sedge Brazil	Orton Creek	Irrig.	12 acres by sprinkler	Not meas.	Approp.	0.03 cfs 0.2 af storage	A-17993[a,c]	1958	Pump; 7-1/2-hp electric motor with direct connection to distribution system.	
D-4N/1W-15N1 (Sheet 2)	Charlie Berta	Elk River	Irrig. Stock.	9 acres by sprinkler* 12 head	17	Approp.	0.1 cfs	A-11871[a]	1947	Pump: 7-hp gasoline engine and sprinkler distribution system which includes 700 feet of 5-inch main.	Received supplemental supply from ground water.
D-4N/1W-16J1 (Sheet 2)	Arnold C. and Lillian L. Jepsen, John D. and Mae Sullivan	Elk River	Irrig. Stock.	37 acres by sprinkler 40 head	49	Approp.	0.25 cfs	A-12590[a]	1948	Pump; 10-hp electric motor with direct connection to distribution system.	Former owners: O. J. Loffer, A. and I. Shovers, I. and I. M. Woods.
D-4N/1W-16K1 (Sheet 2)	Peter F. and Lucille M. Lorensen	Elk River	Irrig. Stock.	79 acres by sprinkler 125 head	89	Approp.	0.64 cfs	A-15357[a]	1952	Pump; 30-hp electric motor with direct connection to distribution system.	
D-4N/1W-16R1 (Sheet 2)	Natale Dellabalma	Tributary to Elk River	Irrig.	25 acres by flooding	Not meas.	Approp.	0.25 cfs	A-12317[a]	About 1945	Gravity; earth dam and 0.4 mile of earth ditch to area of use.	
D-4N/1W-17M1 (Sheet 2)	Fields Landing Water Works	Springs tributary to Humboldt Bay	Munic.*	161 connections	Not meas.	(c)	--	--	Prior 1900	Pump; 10-hp electric motor and 600 feet of 2-1/2-inch pipe to 103,000-gallon tank and 2,000 feet of 6-inch pipe to distribution system.	Former owners: Humboldt County Golf and Country Club, William Smullen. Supplies King Salmon Water Company as well as Fields Landing.
D-4N/1W-21A1 (Sheet 2)	Natale Dellabalma	Tributary to Elk River	Irrig. Stock.	43 acres by sprinkler 50 head	94	Riparian	--	--	1943	Pump; 15-hp electric motor and sprinkler distribution system which includes 1,000 feet of 4-inch main.	
D-4N/1W-22F1 (Sheet 2)	Simeon L. Zane	Elk River	Irrig. Stock.	(*)	None	Approp.	0.1 cfs	A-13475[a]	1949	Pump; 10-hp electric motor with direct connection to distribution system.	Previously irrigated 132 acres by sprinkler and watered 90 head of stock, not used in 1958.
D-4N/1W-22M1 (Sheet 2)	Manuel B. Estevo	Spring tributary to Elk River	Irrig.	18 acres by flooding	20	Riparian	--	--	1920	Gravity; small earth dam with short earth ditch to distribution system.	Former owner: Falk.
D-4N/1W-22N1 (Sheet 2)	Manuel B. Estevo	Shaw Gulch	Irrig. Stock.	22 acres by flooding 75 head	42	Riparian	--	--	1920	Gravity; earth dam 2 feet high, 3 feet long, with 100 feet of earth ditch to distribution system.	Former owner: Falk.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Eureka Plain Subunit (Continued)						
B B & M											
D-4N/1W-26K1 (Sheet 2)	Math Camathias	South Fork Elk River	Irrig. Domestic Stock.	8 acres by sprinkler (b) 10 head	6	Approp.	0.04 cfs	A-12495[a]	1946	Pump; 3-hp electric motor with direct connection to distribution system.	
D-4N/1W-26H1 (Sheet 2)	Paul and Claire Mazzucchi	South Fork Elk River	Irrig. Stock. Domestic Poultry	30 acres by sprinkler 40 head (b) 1,000 chickens	29	Approp.	0.27 cfs	A-13278[a]	1949	Pump; 7-hp gasoline engine with direct connection to distribution system.	Former owner: Madalena Mazzucchi.
D-4N/1W-27A1 (Sheet 2)	Elk River Mill and Lumber Company Richard L. Billington*	Elk River	Irrig. Stock.	42 acres by sprinkler 30 head	19	Approp.*	0.5 cfs	A-17536[a]	1957	Pump: 22-hp gasoline engine with direct connection to distribution system.	Application 17536 is in name of lessee, Richard L. Billington.
D-4N/1W-28M1 (Sheet 2)	T. F. Bartlett	Tributary to Hookton Slough	Irrig. Domestic	38 acres by sprinkler (b)	Not meas.	Riparian	--	--	1954	Gravity; gravel dam 1 foot high, 4 feet long and 0.5 mile of earth ditch to small reservoir, and 20-hp electric powered pump with direct connection to distribution system.	
D-5N/1E-2M1 (Sheet 1)	Baywood Golf and Country Club	Tributary to Jacoby Creek	Recr.	(*)	Not meas.	(c)	--	--	1958	Storage and pump: earth dam 25 feet high, 825 feet long; with 40-hp electric motor and distribution system which includes 1,000 feet of 8-inch main.	Used to water golf course.
D-5N/1E-4Q1 (Sheet 1)	Arthur Ford	Jacoby Creek	Irrig. Stock.	54 acres by sprinkler 40 head	34	(c)	--	--	1922	Pump: 15-hp electric motor with direct connection to distribution system.	Former owner: Monroe.
D-5N/1E-10Q1 (Sheet 1)	James Elgar*	Jacoby Creek	Irrig. Stock.	41 acres by sprinkler 20 head	37	Approp.	0.25 cfs	A-3189[a]	1922	Pump: 7-1/2-hp electric motor with direct connection to distribution system.	Ownership changed from B. M. Warlick to James Elgar in June 1958. Former owners: A. Elliott Bartley, F. C. McCauley and G. Fields, R. M. Kirkland, Anton Rasmussen.
D-5N/1E-10R1 (Sheet 1)	Homer A. Fisher	Jacoby Creek	Irrig.	50 acres by sprinkler	39	(**)	--	--	About 1925	Pump: 7-1/2-hp electric motor with direct connection to distribution system.	Former owners: Barber, M. Faustino.
D-5N/1E-16B1 (Sheet 1)	Herman and Marie Halvorsen	Tributary to Rocky Gulch	Indust. Domestic Stock.	Lumber mill and log pond (b) 11 head	Not meas.	Approp.	0.12 cfs	A-5228[a]	1926	Storage; earth dam 20 feet high, 50 feet long, with short pipeline to area of use.	Former owner: Nels B. Halvorsen.
D-5N/1E-21F1 (Sheet 1)	Harry McLean	Hanson Creek	Irrig.	9 acres by sprinkler*	9	Riparian	--	Deed	1948	Pump; 2-hp electric motor with direct connection to distribution system.	Former owner: Barnes. Area served received supplemental supply from ground water.

* - See remarks.
** - This water right is recognized in limitations placed upon later appropriative rights as being "vested by adverse possession."
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Eureka Plain Subunit (Continued)						
H B & M											
D-5N/1E-21M1 (Sheet 1)	Nelson C. Bowles	Ranson Creek	Irrig.	(*)	None	Riparian	--	--	1945	Gravity; earth dam 4 feet high, 30 feet long, with pump and 6-inch pipeline to distribution system.	Former owners: Bengston, Bantz, McFarland, Kirkham. Previously irrigated 52 acres by sprinkler and flooding.
D-5N/1E-29P1 (Sheet 1)	Chris H. Nielsen	Tributary to Freshwater Creek	Irrig. Stock.	69 acres by sprinkler 130 head	13	Approp.	0.25 cfs	A-10300[a]	1940	Pump; 16-hp gasoline engine with direct connection to distribution system.	Former owner: Green.
D-5N/1E-31C1 (Sheet 1)	Joseph R. Hinch	Hess Creek	Irrig. Stock.	14 acres by sprinkler 25 head	1	Riparian	--	--	1955	Pump; 7-1/2-hp gasoline engine with direct connection to distribution system.	Former owners: Kay, Relie Brothers.
D-5N/1E-33D1 (Sheet 1)	Mrs. Campbell McClosky	Freshwater Creek	Irrig. Stock.	149 acres by sprinkler 100 head	53	Riparian	--	--	1945	Pump; gasoline engine, with direct connection to distribution system.	Former owner: Felts
D-5N/1E-33L1 (Sheet 1)	Otto Kausen Ronald L. Kausen*	Freshwater Creek	Irrig. Stock.	33 acres by sprinkler 40 head	16	Approp.*	0.17 cfs	A-4485[a]	1917	Pump; two 10-hp electric motors with direct connection to distribution system.	Former owners: McCready, Bundeson. Application 4485 is in name of Ronald L. Kausen.
D-5N/1E-33Q1 (Sheet 1)	Louis Conti	Freshwater Creek	Irrig.	8 acres by sprinkler	2	Riparian	--	--	1917	Pump; 7-1/2-hp electric motor with direct connection to distribution system.	Former owners: Scurry, McCready.
D-5N/1W-24R1 (Sheet 1)	United States Plywood Corporation	Springs tributary to Humboldt Bay	Indust.	Log pond	Not meas.	Riparian	--	--	1957	Gravity; two short pipelines to log pond.	
D-5N/1W-25M1 (Sheet 1)	Cottage Gardens Company, Inc.*	Third Slough	Irrig.	26 acres by sprinkler and flooding	Not meas.	Approp.*	0.07 cfs	A-5345[a]	1924	Pump; 15-hp electric motor with about 0.5 mile of 3-inch pipe to distribution system.	Application 5345 is in name of Ronald L. Kausen and David S. Ward.
D-5N/1W-26H1 (Sheet 1)	County of Humboldt	Tributary to Eureka Slough	Irrig. Stock.	(*)	None	Approp. Approp.	0.22 cfs 150 gpm	A-8426[a] A-9984[a]	About 1900	Pump; 10-hp electric motor with short pipeline to 1,000-gallon pressure tank and distribution system.	Diversion interrupted by construction of new annex in 1957. Previously irrigated 8 acres by sprinkler and watered 80 head of livestock.
D-5N/1W-36L1 (Sheet 1)	Pacific Conservation Company	Ryan Creek	Irrig.	4 acres by sprinkler*	Not meas.	Riparian	--	--	About 1954	Pump; 5-hp gasoline engine with direct connection to distribution system.	An additional 19 acres, previously irrigated, were idle or fallow in 1958.
D-6N/1E-21Q1 (Sheet 1)	City of Arcata	Janes Creek	Munic.	(*)	4*	(*)	(*)	(*)	1935	Pump; two 10-hp electric motors and 2.5 miles of 6-inch pipe to reservoir on Jolly Giant Creek.	Details of use, and water right data reported under D-6N/1E-28H1. Amount diverted supplements D-6N/1E-28H1.
D-6N/1E-27E1 (Sheet 1)	City of Arcata	Jolly Giant Creek*	Munic.	(*)	(*)	Approp.	35 af storage	A-9751[a]	1936	Storage; earth dam 50 feet high, 160 feet long, with 46 acre-foot reservoir.	Details of use and amount diverted reported under D-6N/1E-28H1. Source listed as Preston Creek in water right.

* - See remarks
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Eureka Plain Subunit (Continued)						
H B & M											
D-6N/1E-28H1 (Sheet 1)	City of Arcata	Jolly Giant Creek*	Munic.	2,600 connections*	170*	Approp.	0.31 cfs	A-9751[a]	About 1880	Storage and gravity; earth dam 25 feet high, 25 feet long, with 200,000-gallon reservoir and 0.75 mile of 6-inch pipe to distribution system.	Supplemented by D-6N/1E-21Q1, -27E1, -28Q1 and 3 wells. Reported amount diverted includes all water diverted by D-6N/1E-27E1. Source listed as Preston Creek in water right.
D-6N/1E-28Q1 (Sheet 1)	Park Reservoir; City of Arcata	Park Creek	Munic.	(*)	20*	(a)	(*)	(*)	About 1870	Storage and gravity; concrete dam 40 feet high, 80 feet long, with 5,000,000-gallon reservoir and 2,400 feet of 4-inch pipe to distribution system.	Former owner: Union Water Company. Details of use, and water right data reported under D-6N/1E-28H1. Amount diverted supplements D-6N/1E-28H1.
D-6N/1E-29M1 (Sheet 1)	Walter C. Moranda	McDaniel Slough	Irrig.	54 acres by sprinkler	Not meas.	Approp.	0.15 cfs	A-13678[a]	About 1948	Pump; 10-hp electric motor with direct connection to distribution system.	Former owner: Henrietta Moranda.
D-6N/1E-32M1 (Sheet 1)	Jalmer Berg, A. W. Menke, Cornelius H. Siemens, H. E. Walter	McDaniel Slough	Irrig.	69 acres by flooding	Not meas.	Approp.	0.15 cfs	A-13677[a]	1950	Gravity; weir, 4 feet high, 10 feet long, across leveed channel with series of 4-inch pipes through levee to earth ditch distribution system.	Former owners: J. S. and J. F. Stanberry.
					Humboldt Redwoods Subunit						
D-1S/1E-25Q1 (Sheet 10)	Bee River Lumber Company	Bull Creek	Induet.	Log pond, fire protection	Not meas.	(c)	--	--	1930	Pump; 30-hp electric motor with 150 feet of 4-inch pipe to area of use.	Former owners: Nielson Products, Battery Separator Company, Bear River Lumber Company.
D-1S/2E-30E1 (Sheet 11)	Hugh K. Thornton	Albee Creek	Irrig. Stock.	12 acres by sprinkler 35 head	1	Riparian	--	--	1907	Pump; 5-hp electric motor with direct connection to distribution system.	Former owner: Albee.
D-2S/2E-3J1 (Sheet 14)	Weott Water Works	Spring tributary to South Fork Eel River	Munic.	(*)	Not meas.	(c)	--	--	1930	Gravity; 1,000 feet of 4-inch pipe to wood settling box and 0.6 mile of 4-inch pipe to 3,000-gallon tank.	Former owners: Bill Frazer, Roy Cheverton, Charles East. Supplements D-2S/2E-3R1. Extent of use reported under D-2S/2E-3R1.
D-2S/2E-3R1 (Sheet 14)	Weott Water Works	Mill Creek	Munic.	150 connections	Not meas.	(c)	--	--	1930	Gravity; about 0.75 mile of 6-inch pipe to 10,000-gallon storage tank.	Former owners: Bill Frazer, Roy Cheverton, Charles East. Supplemented by D-2S/2E-3J1.
D-2S/3E-30K1 (Sheet 14)	Myers Water Works	Peta Creek	Munic.	80 connections*	Not meas.	Approp.	0.4 cfs	A-14080[a]	1950	Gravity; rock and concrete dam 6 feet high, 4 feet long, with 60 feet of 6-inch pipe and 1,000 feet of 4-inch main to service area.	Point of diversion is in Rumboldt Redwoods State Park. Supplemented by ground water.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Humboldt Redwoods Subunit (Continued)						
H B & M											
D-2S/3E-34N1 (Sheet 14)	C. K. Bowman	South Fork Eel River	Irrig. Domestic	31 acres by sprinkler* (b)	3	Riparian	--	Deed	1956	Pump: 15-hp gasoline engine and distribution system, which includes about 600 feet of 4-inch main.	An additional 4 acres, previously irrigated, were idle or fallow in 1958.
D-3S/3E-3L1 (Sheet 17)	Miranda Private Water Development	South Fork Eel River	Munic.	51 connections	Not meas.	(c)	--	(c)	1947	Pump: 15-hp electric motor and about 0.6 mile of 3-inch pipe to 80,000-gallon tank.	
D-3S/3E-4F1 (Sheet 17)	Warren L. Smith	Spring tributary to Salmon Creek	Irrig.	10 acres by sprinkler*	Not meas.	Approp.	0.09 cfs	A-14029[a]	1950	Gravity: 500 feet of 2- and 3-inch pipe to distribution system.	An additional 9 acres, previously irrigated, were idle or fallow in 1958.
D-3S/3E-5H1 (Sheet 17)	Warren L. Smith	Spring tributary to Salmon Creek	Irrig. Domestic	5 acres by sprinkler (b)	Not meas.	Approp.	0.03 cfs	A-14076[a]	1930	Gravity: 500 feet of 1-inch pipe to pond and 1,500 feet of 1- and 1-1/4-inch pipe to distribution system.	
D-3S/3E-5P1 (Sheet 17)	Rae Wright	Salmon Creek	Irrig.	5 acres by sprinkler	2	Riparian	--	--	About 1900	Pump: 5-hp gasoline engine with direct connection to distribution system.	
D-3S/3E-8C1 (Sheet 17)	Charles Berry and Russell Fleet	Salmon Creek	Irrig.	3 acres by sprinkler	3	Riparian	--	--	1958	Pump: 25-hp electric motor and 1,000 feet of 2-1/2-inch pipe to distribution system.	
D-3S/3E-8D1 (Sheet 17)	Marjorie R. Berry	Salmon Creek	Irrig.	6 acres by sprinkler	Not meas.	Riparian	--	--	1958	Pump: 16-hp gasoline engine with direct connection to distribution system.	
D-3S/3E-12J1 (Sheet 17)	Phillipsville Water System	Springs tributary to South Fork Eel River	Munic.	35 connections	Not meas.	(c)	--	--	About 1920	Gravity: wood diversion structure and 2,000 feet of 2- to 4-inch pipe to 60,000-gallon tank and 700 feet of 4-inch pipe to 10,000-gallon tank.	Former owners: Gatchet, Herbert Tiffany.
D-3S/3E-12P1 (Sheet 17)	Ellen B. Murray*	South Fork Eel River	Indust.	Gravel washing	Not meas.	Riparian	--	--	1955	Pump: gasoline engine and 150 feet of 3-inch pipe to washer.	Darrell Beasley leases the land and owns and operates the diversion system.
D-3S/4E-6L1 (Sheet 17)	James Johnson	Spring tributary to South Fork Eel River	Irrig. Domestic	8 acres by sprinkler (b)	Not meas.	Riparian	--	--	1958	Gravity; 600 feet of 2-inch pipe to pond and distribution system.	

* - See remarks
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						Lake Benbow Subunit					
M D B & M											
D-23N/15W-21R1 (Sheet 29)	Day Symmes	Tributary to Grapevine Creek	Irrig.	5 acres by flooding	Not meas.	Riparian	--	--	Prior 1929	Gravity: earth fill 2 feet high, 12 feet long, with 400 feet of 6-inch pipe to area of use.	Former owners: Woodruff, Pat McKinnon.
D-23N/15W-26L1 (Sheet 29)	Guy Redvine	Tributary to Rattlesnake Creek	Irrig. Stock. Domestic	2 acres by sprinkler 200 head (b)	Not meas.	Riparian	--	--	Prior 1940	Gravity: earth dam 6 feet high, 50 feet long, with 700 feet of pipe to distribution system.	
D-23N/15W-33H1 (Sheet 29)	Day Symmes	Tributary to Rattlesnake Creek	Irrig.	3 acres by sprinkler	Not meas.	Riparian	--	--	Prior 1929	Gravity: earth dam 2 feet high, 6 feet long, with 700 feet of 3-inch pipe to distribution system.	Former owners: Woodruff, Pat McKinnon.
D-23N/16W-17N1 (Sheet 29)	Ellen I. Noha	Squaw Creek	Power Domestic	1 kw (b)	Not meas.	Approp.	0.184 cfs 1,500 gpd	A-11292[a] A-7238[a]	1945 1932	Gravity: concrete dam 4 feet high, 10 feet long, with about 0.1 mile of 4-inch pipe to power plant.	Former owner: Curtis T Orwick.
D-23N/17W-12K1 (Sheet 29)	Holton Hornbeck, et al.*	Big Dann Creek	Munic.	33 connections	Not meas.	Approp.	10,250 gpd	A-6426[a]	1928	Gravity: gravel fill 1 foot high, 15 feet long, with 1 mile of 1-1/2- and 2-inch pipe to area of use.	Owners listed in Table 8, Index to Surface Water Diversions.
D-23N/17W-12P1 (Sheet 29)	Chauncey O. Mulock*	Big Dann Creek	Munic.	18 connections	Not meas.	Approp.	11,500 gpd	A-9518[a]	1939	Gravity: concrete dam 3 feet high, 30 feet long, with 650 feet of 4- and 5-inch pipe to hydraulic ram and 1 mile of 2-inch pipe to 10,000-gallon tank.	Former owners: E. E. Mulock, Kay D. Olbson. Application 9518 is also in name of Rodney C. and Josephine L. Miller.
D-23N/17W-14Q1 (Sheet 29)	Cedar Creek Fish Hatchery; California State Department of Fish and Game	Cedar Creek	Fish culture	Raising trout	4,879	Approp.	12.0 cfs	A-11436[a]	1946	Gravity: concrete dam 10 feet high, 25 feet long, with 200 feet of 24-inch pipe to hatchery.	
D-24N/17W-6E1 (Sheet 26)	Riverside Lumber Company	South Fork Eel River	Indust.	4-acre log pond	24	(c)	--	--	1955	Pump: 75-hp electric motor with about 350 feet of 3-inch pipe to log pond.	Former owners: Lucas Brothers.
D-24N/17W-28E1 (Sheet 26)	Lanes Redwood Flat, Inc.; R. C. and Ruth B. Underwood	Dora Creek	Domestic Power	20 connections (e)	Not meas.	Approp.	0.49 cfs	A-8152[a]	Prior 1925	Gravity: concrete dam 12 feet high, 48 feet long, with 1,000 feet of 2-inch pipe to service area.	Former owners: George Lane, M. Miller, M. O. Rilson and W. B. Roward, Louis Strella. Previously used for power.
H B & M											
D-48/2E-24H1 (Sheet 19)	North Bend Lumber Company	Redwood Creek	Indust. Domestic	Log pond, fire protection 20 connections	Not meas.	Riparian	--	--	Prior 1950	Gravity and pump: gravel dam 15 feet high, 20 feet long, with short pipeline to log pond and pump to 105,000-gallon tank.	Former owners: W. O. Brix, Trimble, Erickson.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
H B & M					Lake Benbow Subunit (Continued)						
D-4S/3E-2K1 (Sheet 20)	E. D. Wood	South Fork Eel River	Irrig. Stock.	64 acres by sprinkler 470 head	171	Riparian	--	--	1956	Pump; 25-hp electric motor with 0.3 mile of 8-inch pipe and 50-hp booster pump to area of use.	Former owners: Swithenbank heirs.
D-4S/3E-11M1 (Sheet 20)	Redway Water Company	Springs tributary to South Fork Eel River	Munic.	(*)	31*	(c)	--	--	1922	Gravity and pump: concrete catch basin 20 feet wide, 50 feet long, with 10-hp electric powered pump, and 0.25 mile of 3-inch pipe to 60,000-gallon storage tank.	Details of use reported under D-4S/3E-14L1. Amount diverted supplements D-4S/3E-14L1.
D-4S/3E-14L1 (Sheet 20)	Redway Water Company	South Fork Eel River	Munic.	400 connections*	120*	Approp.	0.223 cfs	A-11876[a]	1947	Pump: 50-hp electric motor with 0.6 mile of 8-inch pipe to 80,000-gallon tank.	Former owner: First National Bank of Scotia. Purposes reported and amount diverted received supplemental supply from D-4S/3E-11M1.
D-4S/3E-24C1 (Sheet 20)	W. W. and Velma V. Marshall	South Fork Eel River	Irrig.	33 acres by sprinkler	19	Approp.	0.71 cfs	A-16615[a]	1955	Pump: 25-hp electric motor, with 600 feet of 6-inch pipe to area of use.	
D-4S/3E-24N1 (Sheet 20)	Carroll Pancoast	South Fork Eel River	Irrig.	10 acres by flooding	39	Riparian	--	--	1948	Pump: 20-hp electric motor with direct connection to distribution system.	Former owner: Yeary Ranch.
D-4S/3E-24P1 (Sheet 20)	Garberville Water Company, Inc.	South Fork Eel River	Munic.	320 connections*	129	Approp.	0.155 cfs	A-9686[a]	1939	Pump; 40-hp electric motor with 0.25 mile of 4-inch pipe to service area.	Supplemented by D-4S/4E-20D1. Amount diverted includes all water diverted by D-4S/4E-20D1.
D-4S/3E-33N1 (Sheet 20)	Ed R. Wagner	Warden Creek	Irrig.	8 acres by sprinkler	Not meas.	Riparian	--	--	1951	Gravity and pump: concrete and board dam 6 feet high, 10 feet long, with 5-hp electric motor and short 4-inch pipeline to distribution system.	
D-4S/3E-34J1 (Sheet 20)	Waldo W. Roff	South Fork Eel River	Irrig.	3 acres by flooding	Not meas.	Riparian	--	--	1951	Pump; 5-hp electric motor, with short pipeline to distribution system.	
D-4S/3E-35P1 (Sheet 20)	Mansfield-Benbow Corporation	South Fork Eel River	Induet.	Lumber mill and fire protection	Not meas.	Riparian	--	--	1955	Pump; 10-hp electric motor with 600 feet of 2-inch pipe to area of use.	
D-4S/3E-36H1 (Sheet 20)	Benbow Water Company*	East Branch South Fork Eel River	Munic.	40 connections	Not meas.	Approp.	0.92 cfs	A-4413*[a]	1923	Pump: 10-hp electric motor with about 0.1 mile of 4-inch pipe to 175,000-gallon storage tank.	Former owners: J. E. Benbow, Benbow Hotel Company. Application 4413 is in name of Benbow Trust and also exercised at D-4S/3E-36J1 and D-4S/3E-36N1.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Lake Benbow Subunit (Continued)						
H B & M											
D-4S/3E-36J1 (Sheet 20)	Beebow Trust	East Branch South Fork Eel River	Recr.	(*)	57	(*)	(*)	(*)	1925	Pump: 30-hp electric motor with short pipeline to distribution system.	Used to water golf course. Water right data reported under D-4S/3E-36H1.
D-4S/3E-36N1 (Sheet 20)	Benbow Dam; Benbow Trust and California State Department of Natural Resources, Division of Beaches and Parks*	South Fork Eel River	Recr.	Boating, fishing, swimming, picnicking*	Not meas.	Approp.	1,054.74 af 0.35 cfs	A-4413[a]	1925	Storage and pump; concrete dam, 44 feet high, 283 feet long, with 1,060-acre-foot reservoir and pump with 15-hp gasoline engine.*	Previously used for power generation. Pump installed by Division of Beaches and Parks for watering picnic area under partial assignment of application 4413.
D-4S/4E-20D1 (Sheet 20)	Garberville Water Company, Inc.	Bear Canyon and Bear Mountain Spring	Munic.	(*)	(*)	(c)	--	--	1920	Gravity; earth dam 3 feet high, 6 feet long, with 1.5 mile of 3-inch pipe to service area.	Standby for D-4S/3E-24P1. Details of use and amount diverted reported under D-4S/3E-24P1.
D-5S/3E-14K1 (Sheet 23)	California State Department of Natural Resources, Division of Beaches and Parks	Durphy Creek	Domestic	35 connections and 75 camp site spigots	Not meas.	Approp.	0.046 cfs	A-14652[a]	1952	Pump: two 3-hp electric motors with 200 feet of 3-inch pipe to 100,000-gallon storage tank, and 0.5 mile of pipeline to service area.	
D-5S/3E-24Q1 (Sheet 23)	Lloyd F. Cook	South Fork Eel River	Irrig. Stock.	7 acres by sprinkler 30 head	8	Approp.	0.15 cfs	A-5317[a]	1924	Pump: 25-hp electric motor with about 200 feet of 6-inch pipe to distribution system.	
D-5S/4E-4A1 (Sheet 23)	Alice H. Kinsey	East Branch South Fork Eel River	Irrig.	47 acres by sprinkler	137	Approp.	0.5 cfs	A-14691[a]	1952	Pump; 30-hp electric motor, with about 0.25 mile of 4-inch pipe to distribution system.	
D-5S/5E-21E1 (Sheet 24)	C. J. Dugan	Tom Long Creek	Indust.	Log pond and sawmill	Not meas.	(c)	--	--	About 1954	Gravity; earth dam 10 feet high, 75 feet long.	
					Lake Pillsbury Subunit						
M D B & M											
D-18N/10W-23D1 (Export) (Sheet 43)	Scott Dam (Lake Pillsbury) Pacific Gas and Electric Company	Eel River	Export* Recr.	(*) Boating, fishing, etc.	7,400	Approp.	102,366 af storage	A-1719[a]	1920	Storage; concrete dam 120 feet high, 815 feet long, with 93,724 acre-foot reservoir.	Former owner: Snow Mountain Water and Power Company. This diversion stores water for re-diversion at Van Arsdale Dam and export from the Eel River Hydrographic Unit for power generation and irrigation in Potter Valley.
D-18N/11W-29P1 (Sheet 43)	Ukiah Pine Lumber Company*	Eel River	Indust.	Log pond and mill use	328*	(*)	(*)	(*)	Prior 1949	Pump; 25-hp electric motor with 60 feet of 14-inch pipe to log pond, and 15-hp electric motor with about 200 feet of 2-inch pipe to mill and storage tank for fire protection.	Ownership changed to Crawford Lumber Company November 1959. Water purchased from Pacific Gas and Electric Company.

* - See remarks.

For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plats 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Lake Pillsbury Subunit (Continued)						
M D B & M											
D-18N/11W-30H1 (Export) (Sheet 43)	Van Arsdale Dam; Pacific Gas and Electric Company	Eel River	Export	(*)	178,950	Approp.	4,500 af storage 50 cfs and 14,500 af storage	A-5661[a] A-6594[a]	1907	Storage and gravity; concrete dam 52 feet high, 290 feet long, with 700 acre-foot reservoir and tunnel to Potter Valley.	Former owner: Snow Mountain Water and Power Company. Water from Lake Pillsbury is re-diverted at this location and exported from Eel River Hydrographic Unit for power generation and irrigation in Potter Valley.
D-19N/10W-30H1 (Sheet 41)	Margaret Fuller Brown	Mill Creek	Irrig. Stock. Domestic Recr.	8 acres by sprinkler 45 head (b) Swimming pool	Not meas.	Approp.	0.05 cfs	A-2039[a]	1920	Gravity; 1.5 miles of 2-inch pipe to storage tank and area of use.	Former owner: George P. Fuller.
					Larabee Creek Subunit						
H B & M											
D-1S/4E-4P1 (Sheet 11)	Mary Fitzell	Mill Creek	Irrig. Stock.	10 acres by flooding 200 head	Not meas.	Riparian	--	Deed	Prior 1909	Gravity; about 0.8 mile of earth ditch to area of use.	Former owners: Barkley and Reley.
D-1S/4E-35J1 (Sheet 11)	Everett G. Kay	Larabee Creek	Irrig.	21 acres by sprinkler and flooding	24	Approp.	0.083 cfs	A-10600[a]	1937	Pump: 15-hp electric motor with short pipeline to small storage pond and distribution system.	
D-2S/5E-7Q1 (Sheet 15)	Fred Fearrien	Larabee Creek	Irrig.	14 acres by sprinkler	7	Riparian	--	--	1954	Pump: 7-1/2-hp electric motor with direct connection to distribution system.	
D-2S/5E-7Q2 (Sheet 15)	Fred Fearrien	Tributary to Larabee Creek	Recr.	Fishing and swimming	Not meas.	Approp.	21 af storage	A-15868[a]	1954	Storage: earth dam 12 feet high, 450 feet long, with about 10-acre-foot reservoir.	
					Laytonville Subunit						
M D B & M											
D-21N/15W-3L1 (Sheet 34)	George S. Daniels	Tributary to Mud Springs Creek	Stock.	200 head.	Not meas.	(c)	--	--	1958	Storage; earth dam 25 feet high, 265 feet long, with 40-acre-foot reservoir.	Dam built in September 1958.
D-21N/15W-3N1 (Sheet 34)	George S. Daniels	Mud Springs Creek	Irrig.	14 acres by sprinkler	51	Riparian	--	--	About 1950	Pump: 7-1/2-hp electric motor with direct connection to distribution system.	
D-21N/15W-3P1 (Sheet 34)	George S. Daniels	Mud Springs Creek	Irrig.	18 acres by sprinkler	68	Riparian	--	(*)	About 1950	Pump: 15-hp electric motor with short pipeline to distribution system.	Application 18702[e] is for same location.
D-21N/15W-3Q1 (Sheet 34)	George S. Daniels	Mud Springs Creek	Irrig. Domestic	8 acres by sprinkler (b)	15	Riparian	--	--	About 1948	Pump: 5-hp electric motor with short pipeline to distribution system.	

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Laytonville Subunit (Continued)						
M D B & M											
D-21N/15W-11M1 (Sheet 34)	George L. Jessaup	Mill Creek	Irrig. Domestic	14 acres by sprinkler (b)	8	Approp.	0.09 cfs 0.1 cfs	A-13912[a] A-16449[a,e]	Prior 1940	Pump: 14-hp gasoline engine with direct connection to distribution system.	Former owners: W. Kirk, R. Waldron.
D-21N/15W-13C1 (Sheet 34)	Willard L. Frier	Cahto Creek	Irrig.	5 acres by sprinkler	Not meas.	Riparian	--	--	1957	Pump: 5-hp gasoline engine with direct connection to distribution system.	
D-21N/15W-13F1 (Sheet 34)	Willard L. Frier	Cahto Creek	Irrig.	14 acres by sprinkler	Not meas.	Approp.	1.25 cfs	A-17809[a]	1957	Pump: 6-hp gasoline engine with direct connection to distribution system.	
D-21N/15W-14B1 (Sheet 34)	A. W. Ahmann	Lake tributary to Ten Mile Creek	Induat.	Lumber mill and log pond	23	(c)	--	--	1948	Pump: 7-1/2-hp electric motor with 20 feet of 8-inch pipe to log pond.	
D-21N/15W-14N1 (Sheet 34)	Ben Maat	Cahto Creek*	Irrig.	44 acres by sprinkler*	48	Riparian	--	--	1953	Pump: 20-hp electric motor with direct connection to distribution system.	Former owners: D. Camalli, Axt. Source also known as Schoolhouse Creek. Received supplemental supply from D-21N/15W-22C1.
D-21N/15W-15O1 (Sheet 34)	Sam Manor, Sr.	Mill Creek	Irrig. Domestic	18 acres by flooding (b)	764	Riparian	--	Deed	About 1860	Gravity; earth and rock dam 2 feet high, 40 feet long, with 0.25 mile of earth ditch to distribution system.	Former owners: H. Purdy, F. Purdy.
D-21N/15W-22C1 (Sheet 34)	Ben Maat	Tributary to Cahto Creek	Irrig. Recr.	(*) Fishing	Not meas.	(c)	--	--	1949	Storage: earth dam, 24 feet high, 225 feet long, with 49 acre-foot reservoir.	Details of irrigation use reported under D-21N/15W-14N1 and D-21N/15W-22O1.
D-21N/15W-22O1 (Sheet 34)	Ben Maat	Cahto Creek*	Irrig. Stock.	17 acres by furrow and flooding 200 head	681	Riparian	--	--	Prior 1949	Gravity; earth dam 3 feet high, 10 feet long, with about 0.4 mile of earth ditch to distribution system.	Former owners: D. Camalli, Axt. Source also known as Schoolhouse Creek. Received supplemental supply from D-21N/15W-22C1.
D-21N/15W-24L1 (Sheet 34)	Lotar O. Jung	Tributary to Ten Mile Creek	Domestic Recr.	(b) Fishing and boating	Not meas.	(c)	--	--	About 1956	Storage and pump; earth dam 20 feet high, 160 feet long, with 49-acre-foot reservoir and 3 small pumps with short pipelines to service area.	
D-21N/16W-22P1 (Sheet 34)	Branscomo Enterprises	Tributary to South Fork Eel River	Domestic Indust.	25 connections Lumber mill and log pond	Not meas.	Agreement	--	Deed	About 1910	Gravity: concrete diversion structure with 0.3 mile of 4-inch pipe to service area.	Former owners: Branscomb family.
D-22N/15W-22E1 (Sheet 31)	Leonard Berchtold	Ten Mile Creek	Irrig.	27 acres by sprinkler	41	Riparian	--	--	Prior 1957	Pump: 25-hp electric motor with short pipeline to distribution system.	Former owner: O. S. Daniels.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						Laytonville Subunit (Continued)					
M D B & M											
D-22N/15W-23M1 (Sheet 31)	John Hargus	Lewis Creek	Irrig. Stock.	9 acres by flooding 11 head	Not meas.	Riparian	--	--	1879	Gravity; rock dam 1 foot high, 30 feet long, and 1,300 feet of earth ditch to distribution system.	Former owners: Rothjen, George Stemple, Marshall Fisher, Ernest McKee.
D-22N/15W-26P1 (Sheet 31)	Warren S. and Lorraine R. Woodruff	Ten Mile Creek	Indust.	Log pond	48	Riparian	--	--	Prior 1957	Pump; 20-hp electric motor with 300 feet of 3-inch pipe to log pond.	Former owner: Hopewell Industries.
D-22N/15W-26P2 (Sheet 31)	Warren S. and Lorraine R. Woodruff	Ten Mile Creek	Indust.	2-1/2 acre log pond	Not meas.	Riparian	--	--	About 1953	Pump; 15-hp electric motor with 0.2 mile 3- and 4-inch pipe to log pond.	This diversion is supplemented by direct runoff into pond.
D-22N/16W-29H1 (Sheet 31)	Heath Angelo	Elder Creek	Irrig. Power Domestic	(*)	Not meas.	Approp.	11,000 gpd 0.68 cfs	A-7409[a] A-7473[a]	1932 1932	(*)	Data regarding extent and method of use, and description of diversion system not obtainable at time of survey.
						Lower Eel Subunit					
H B & M											
D-1N/1E-5N1 (Sheet 8)	Leroy C. Todd	Eel River	Irrig. Stock.	43 acres by sprinkler 36 head	49	Approp.	0.25 cfs	A-11196[a]	1945	Pump; 20-hp electric motor with about 0.25 mile of 6-inch pipe to distribution system.	Former owner: Coy.
D-1N/1E-18B1 (Sheet 8)	The Pacific Lumber Company	Eel River	Munic.*	1,037 persons	1,277	Approp.	18.6 cfs	A-5504[a]	1886	Gravity and pump; earth dam, 6 feet high, 300 feet long with 60- and 75-hp electric powered pumps and 12-inch pipeline to service area.	Supplies various uses within the community of Scotia.
D-1N/1E-22C1 (Sheet 8)	Ferdinand M. Perra	Eel River	Irrig. Stock.	64 acres by sprinkler* 23 head	32	Approp.	0.46 cfs	A-11582[a,*]	1946	Pump; 30-hp electric motor with direct connection to distribution system.	Former owner: A. Muskinie. Area irrigated received supplemental supply from ground water. Application 11582 cancelled December 1960.
D-1N/2E-33N1 (Sheet 8)	Frank E. and Olieva L. Casey	Chadd Creek	Irrig. Stock.	35 acres by sprinkler 40 head	15	Approp.	0.33 cfs	A-17583[a]	About 1943	Gravity and pump; earth dam 4 feet high, 15 feet long, with 7-1/2-hp electric powered pump and distribution system which includes 800 feet of 5-inch main.	Former owners: Hoffman, Doolaege.
D-2N/1E-31C1 (Sheet 5)	Silvio and Louise Mozzetti	Tributary to Eel River	Irrig.	40 acres by sprinkler	Not meas.	Approp.	0.067 cfs	A-8824[e]	1936	Pump: 7-1/2-hp electric motor and distribution system which includes 1,500 feet of 5-inch main.	Former owner: Paul M. Schmook.
D-2N/1E-31L1 (Sheet 5)	George W. Evans	Eel River	Irrig.	22 acres by sprinkler	32	Approp.	0.1 cfs	A-16251[a]	1955	Pump: 10-hp electric motor with direct connection to distribution system.	

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Lower Eel Subunit (Continued)						
H B & M											
D-2N/1W-2J1 (Sheet 5)	James Littlefield	Strongs Creek	Irrig.	(*)	None	Riparian	--	--	1956	Pump: 5-hp electric motor with direct connection to distribution system.	Previously irrigated 14 acres by sprinkler, not used in 1958.
D-2N/1W-6E1 (Sheet 5)	Pauline Flynn	Salt River	Irrig.	63 acres by sprinkler	52	Riparian	--	--	About 1951	Pump: 15-hp electric motor with direct connection to distribution system.	
D-2N/1W-6L1 (Sheet 5)	Antone Regli	Salt River	Irrig.	31 acres by sprinkler	35	Riparian	--	--	About 1927	Pump: 10-hp electric motor with direct connection to distribution system.	Former owner: Joseph Regli.
D-2N/1W-27E1 (Sheet 5)	Robert E. and Lois L. Renner	Price Creek	Irrig.	80 acres by sprinkler	63	Approp.	0.39 cfs	A-15444[a]	1953	Pump: 25-hp electric motor with about 1,000 feet of 8-inch pipe to distribution system which includes booster pump.	
D-2N/1W-35J1 (Sheet 5)	Anna Biasca	Eel River	Irrig.	35 acres by sprinkler	51	Riparian	--	--	About 1945	Pump: 15-hp electric motor and distribution system which includes 1,000 feet of 6-inch main.	
D-2N/1W-36M1 (Sheet 5)	Fred Bravo	Eel River	Irrig.	36 acres by sprinkler	57	Approp.	0.44 cfs	A-12319[a]	1948	Pump: 20-hp electric motor with short pipeline to distribution system.	
D-2N/2W-1N1 (Sheet 5)	Ugo Valsecchi	Williams Creek	Irrig.	11 acres by sprinkler	4	Approp.	13,500 gpd	A-14746[a,*]	1952	Pump: 5-hp electric motor with direct connection to distribution system.	Application 14746 is in name of Frank Valsecchi.
D-2N/2W-5J1 (Sheet 5)	Elizabeth A. Rasmussen Ronald V. Smith	Ruse Creek	Irrig.	28 acres by sprinkler	16	Approp.	0.21 cfs	A-10177[a]	1941	Pump: 5-hp electric motor with direct connection to distribution system.	Former owners: Frank N. Rasmussen, D. R. Smith, J. R. Ericcson, S. V. Smith.
D-2N/2W-10B1 (Sheet 5)	Port Kenyon Water System	Spring tributary to Eel River	Munic.	72 connections	32	(c)	--	--	1900	Gravity; about 1.75 miles of 4- and 6-inch pipe to service area.	
D-2N/2W-11L1 (Sheet 5)	Ferndale Water System; Citizens Utilities Company of California	Traulson Creek	Munic.	(*)	(*)	Agreement	--	Deed	1929	Gravity: concrete dam 1 foot high, 6 feet long, with about 1,250 feet of 4-inch pipe to intersection of pipe from 2N/2W-11Q1.	Former owners: D. E. Francis, Francis Land and Water Company. Amount diverted and details of use reported under D-2N/2W-11P1.
D-2N/2W-11P1 (Sheet 5)	Ferndale Water System; Citizens Utilities Company of California	Traulson Creek and springs tributary to Traulson Creek	Munic.*	525 connections	102*	Agreement	--	Deed	About 1860	Gravity: pipeline to 1,250,000-gallon reservoir.	Former owners: D. E. Francis, Francis Land and Water Company. Reported amount diverted includes all water diverted by D-2N/2W-11L1 and D-2N/2W-11Q1. Combined supply served indicated use.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						Lower Eel Subunit (Continued)					
H B & M											
D-2N/2W-11Q1 (Sheet 5)	Ferndale Water System; Citizens Utilities Company of California	Springs tributary to Francis Creek	Munic.	(*)	(*)	Agreement	--	Deed	About 1860	Gravity; about 0.6 mile of 4- and 6-inch pipe to 1,250,000-gallon reservoir.	Former owners: D. E. Francis, Francis Land and Water Company. Amount diverted and details of use reported under D-2N/2W-11P1.
D-2N/2W-13E1 (Sheet 5)	L. E. Paine	Williams Creek	Irrig.	24 acres by sprinkler	11	Riparian	--	--	1954	Pump; 9-hp gasoline engine with direct connection to distribution system.	
D-3N/1W-17P1 (Sheet 3)	Loleta Water Works	Springs tributary to Eel River	Munic.	160 connections*	Not meas.	(c)	--	--	About 1893	Gravity; collection system with 12,000-gallon treatment tank and about 0.7 mile of 4-inch pipe to 60,000-gallon tank.	Former owners: Frank Bertsch and Sarah Perrott, Henry Perrott. Service area received supplemental supply from ground water.
D-3N/1W-18P1 (Sheet 3)	Joe M. Genzoli	Springs tributary to Eel River	Irrig.	67 acres by sprinkler*	Not meas.	Riparian	--	--	1918	Pump; 20-hp electric motor with direct connection to distribution system.	Former owner: Mary Genzoli. Area irrigated received supplemental supply from ground water.
D-3N/2W-12K1 (Sheet 3)	Walter Bognuda	Hawk Slough	Irrig.	58 acres by sprinkler	43	Riparian	--	--	1942	Pump; 15-hp electric motor with distribution system which includes 1,000 feet of 6-inch main.	Former owner: Mose Bognuda.
D-3N/2W-35R1 (Sheet 3)	Joe E. Silva	Francis Creek	Irrig.	47 acres by sprinkler	73	Approp.	0.25 cfs	A-10052[a,e]	1940	Pump; 5-hp electric motor with direct connection to distribution system.	
						North Fork Subunit					
M D H & M											
D-24N/13W-Tr 54N1 (Sheet 27)	Merrill D. and Leora W. Reed	Tributary to North Fork Eel River	Power Domestic	2.5 kw (b)	29	Approp.	37,000 gpd	A-15337[a,e]	1953	Gravity; rock and wood dam 8 feet high, 20 feet long, with 0.5 mile of 3-inch pipe to power plant.	
D-24N/14W-Tr 67H1 (Sheet 27)	H. C. Timmons	Tributary to North Fork Eel River	Irrig.	7 acres by sprinkler	Not meas.	Riparian	--	--	1948	Gravity; earth dam 1 foot high, 5 feet long, with about 800 feet of 4- and 6-inch pipe to distribution system.	
H B & M											
D-4S/7E-16L1 (Sheet 21)	Merlio Goodwin	Springs tributary to Hoaglin Creek	Irrig. Indust.	14 acres by sprinkler* Log pond	12	Riparian	--	--	1955	Pump; 12-hp gasoline engine with direct connection to distribution system.	An additional 3 acres, previously irrigated, were idle or fallow in 1958.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					North Fork Subunit (Continued)						
H B & M											
D-5S/7E-17R1 (Sheet 24)	Leonard M. Miller	Spring tributary to Troutman Creek	Irrig. Stock. Domestic	4 acres by sprinkler 15 head (b)	12	Approp.	9,000 gpd	A-15752[a]	1927	Gravity; concrete dam 4 feet high, 36 feet long, and about 1/2 mile of 1-1/4- and 2-inch pipe to area of use.	
D-5S/7E-20A1 (Sheet 24)	Leonard M. Miller	Troutman Creek	Irrig. Stock.	6 acres by sprinkler 15 head	11	Approp.	0.04 cfs	A-15753[a]	1954	Gravity; earth and rock dam 1 foot high, 4 feet long, with 0.5 mile of 3- and 6-inch pipe to distribution system.	
D-5S/7E-21D1 (Sheet 24)	Leonard M. Miller	Springs Tributary to Troutman Creek	Power	3 kw	81	Riparian	--	--	1954	Gravity; earth dam 10 feet high, 30 feet long, with about 500 feet of 3-inch pipe to power plant.	
D-5S/7E-26M1 (Sheet 24)	Ernest J. Theis	Spring Tributary to North Fork Eel River	Irrig. Power Stock. Recr.	4 acres by sprinkler 1 kw 20 head Swimming pool	Not meas.	Riparian	--	--	Prior 1918	Gravity; earth dam with 1,100 feet of 4-inch pipe to area of use.	
D-5S/7E-28D1 (Sheet 24)	Roscoe G. and Mabel W. Hotchkiss	Hunt Creek*	Power	5 kw	87	Approp.	0.2 cfs	A-15703[a]	1954	Gravity; wood dam 4 feet high, 6 feet long, with two 3-inch pipes, about 600 feet long, to power plant.	Source also known as Childs Creek.
					Outlet Creek Subunit						
M D B & M											
D-18N/13W-8P1 (Sheet 42)	Clifton Snider	Davis Creek	Irrig.	(*)	None	Riparian	--	--	Prior 1957	Pump; 10-hp electric motor and sprinkler distribution system which includes 1,500 feet of 4-inch main.	Former owner: Clifford Snyder Previously irrigated 13 acres.
D-18N/13W-9J1 (Sheet 42)	Ray T. Haag	Berry Creek	Irrig. Domestic	9 acres by sprinkler (b)	2	Approp.	0.1 cfs	A-16417[a,e]	Prior 1953	Pump; 2-hp electric motor with direct connection to distribution system.	Former owner: Stafford.
D-18N/13W-17P1 (Sheet 42)	Willits Ready Mix Company	Davis Creek	Indust.	Gravel washing	139	Riparian	--	--	1946	Pump; 30-hp electric motor with 200 feet of 3-inch pipe to washer.	Former owner: C. A. Haun
D-18N/13W-19B1 (Sheet 42)	Phillip Colli	Springs tributary to Baechtel Creek	Irrig. Stock.	(*)	Not meas.	Riparian	--	--	1953	Pump; portable, diesel engine and distribution system which includes 600 feet of 4- and 5-inch main.	Supplements D-18N/13W-19G1 when flow in Hashl Creek is insufficient. Details of use reported under D-18N/13W-19G1.
D-18N/13W-19G1 (Sheet 42)	Phillip Colli	Hashl Creek	Irrig. Stock.	54 acres by sprinkler* 125 head*	Not meas.	Approp.	0.36 cfs	A-11966[a]	1947	Pump; portable, diesel engine and distribution system which includes 600 feet of 4- and 5-inch main.	Received supplemental supply from D-18N/13W-19B1.

* - See remarks.
For lettered footnotes, see last page of table.

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Outlet Creek Subunit (Continued)						
M D B & M											
D-18N/13W-33A1* (Sheet 42)	Earl W. Elwinger	Davis Creek	Irrig. Stock.	9 acres by sprinkler 125 head	2	Riparian	--	--	About 1930	Pump; 9-hp gasoline engine with short pipeline to distribution system.	Former owners: Minton Estate, Woodruff, P. Cullman.
D-18N/13W-33H1 (Sheet 42)	Morris Dam; Pacific Gas and Electric Company	Davis Creek*	Munic.	3,500 persons*	701	Approp.	2.0 cfs 635 af storage	A-4572[a]	1925	Storage; concrete dam 62 feet high, 143 feet long, with 835 acre-foot reservoir and about 3 miles of 18-inch pipe to treatment plant and storage tank.	Former owners: Central Mendocino County Power Company, California Public Service Company. Source also known as James Creek. Serves town of Willits.
D-18N/14W-12D1 (Sheet 40)	Edward C. Asher	Tributary to Haehl Creek	Irrig.	(*)	None	Riparian	--	--	1952	Gravity and pump: earth dam with 15-hp electric powered pump with direct connection to distribution system.	Previously irrigated 47 acres.
D-19N/14W-8R1 (Sheet 40)	Edgar Freeman	Sherwood Creek	Irrig.	86 acres by sprinkler	Not meas.	Riparian	--	--	About 1950	Pump: 25-hp gasoline engine and direct connection to distribution system.	Former owner: George Stemple. Application 18978[c] applied for December 10, 1959, to store supplemental supply.
					Round Valley Subunit						
M D B & M											
D-22N/12W-5J1 (Sheet 32)	Henry C. and Genevieve Lingua	Mill Creek	Irrig.	27 acres by furrow	17	Approp.	0.75 cfs	A-11908[a]	1947	Pump: 5-hp electric motor with 650 feet of 9-inch pipe to distribution system.	
D-22N/12W-16A1 (Sheet 32)	Edward A. and Josephine C. Noyes	Mill Creak	Irrig.	50 acres by sprinkler	Not meas.	Approp.	0.56 cfs	A-17586[a]	1955	Pump: portable diesel engine with direct connection to distribution system.	
D-22N/13W-2F1 (Sheet 32)	Hal G. and Christina Schultz	Tributary to Town Creek	Irrig. Stock.	59 acres by sprinkler 150 head	99	Approp.	2.25 cfs 30 af storage	A-18136[a]	1950	Storage; earth and concrete dam 30 feet high, 450 feet long, with 1.5 miles of 12-inch pipe to distribution system.	
					Sequoia Subunit						
H B & M											
D-1S/3E-18R1 (Sheet 11)	Maurice S. and Erma M. Lane	Tributary to Newman Creek	Power Domestic	7.5 kw (b)	Not meas.	Approp.	0.56 cfs	A-17358[a]	1956	Gravity; earth and log dam 4 feet high, 40 feet long, with about 1.0 mile of earth ditch and about 1,200 feet of penstock to power plant.	
D-1S/3E-31F1 (Sheet 11)	Georgia-Pacific Corporation; Hammond-California Redwood Division	Pipeline Creek	Indust. Domestic	Brake coolant for logging trucks 12 connections	Not meas.	Riparian	--	--	About 1880	Gravity; concrete diversion structure, with 1,500 feet of 1-1/2- and 2-inch pipe to area of use.	Former owners: Amos Hansell, F. L. Read.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
H B & M					Sequoia Subunit (Continued)						
D-3S/4E-23E1 (Sheet 17)	Fort Seward Water System	Pepperwood Spring	Munic.	250 persons	440	(c)	--	--	1913	Gravity; concrete diversion structure, with about 3.0 miles of 2-inch pipe to service area.	Former owners: Motts, DeVoy, Towne.
D-3S/5E-30J1 (Sheet 17)	Lindroth Timber Products	Spring tributary to Dobbyn Creek	Domestic	40 connections	Not meas.	(c)	--	--	1944	Gravity; concrete dam 4 feet high, 8 feet long, with about 1.3 miles of 2-inch pipe to service area.	Former owners: Capital Lumber Company, Fort Seward Mill and Veneer.
D-3S/5E-5F1 (Sheet 17)	William Gasser	Dobbyn Creek	Irrig. Poultry water	4 acres by sprinkler 1,000 chickens	Not meas.	Riparian	--	--	1954	Pump; 3-hp electric motor and sprinkler distribution system which includes 250 feet of 3-inch main.	
D-3S/5E-8R1 (Sheet 17)	Guy N. Satterlee	Eel River	Irrig. Indust.	89 acres by sprinkler Log pond	323	Riparian	--	--	1955	Pump; 125-hp electric motor with about 0.6 mile of 12-inch pipe to area of use.	
D-3S/5E-10A1 (Sheet 17)	Lindroth Timber Products	North Dobbyn Creek	Indust.	Log pond	Not meas.	(c)	--	--	About 1947	Gravity; 800 feet of 12-inch pipe to log pond.	
D-3S/5E-10A2 (Sheet 17)	Lindroth Timber Products	North Dobbyn Creek	Indust.	Lumber mill and fire protection	Not meas.	(c)	--	--	About 1947	Pump; 50-hp electric motor with 800 feet of 8-inch pipe to storage reservoir.	
D-3S/6E-3N1 (Sheet 18)	Ledgerwood Ditch; Estate of Charles Smith*	Tributary to Mud Creek	Power	(*)	None	Approp.	200 MI	Book 2, page 400[d]	1902	(*)	Former owners: Samuel Ledgerwood and G. Y. Renderson, Josephine Parker, Charles Smith. Ownership changed to Henry M. and Blanche O. Rumley in 1950. System washed out in 1946. Deeded water right and right-of-way maintained for future use.
D-3S/6E-10K1 (Sheet 18)	Harold C. and Bernice R. Ford	East Branch Mud Creek*	Irrig.	5 acres by sprinkler	7	Approp.	0.25 cfs	A-11300[a]	1946	Gravity; about 7,300 feet of 2- and 6-inch main to distribution system.	Source also known as Rock Creek.
D-3S/6E-22A1 (Sheet 18)	Howard and Zelma Benninghoven*	Burgess Creek	Irrig. Stock. Domestic	9 acres by furrow 60 head (b)	77	Approp.	--	--	Prior 1900	Gravity; 0.5 mile of earth ditch to 400-gallon storage tank and distribution system.	Ownership changed from Ed Burgess, Jr. to Howard and Zelma Benninghoven in June 1958. Former owner: Ed Burgess Sr.
D-3S/6E-23N1 (Sheet 18)	Ralph Burgess	Yew Wood Creek	Power Irrig. Stock.	3 kw 12 acres by sprinkler and furrow 40 head	122	Approp.	0.155 cfs	A-11507[e]	1908	Gravity; earth and wood dam 1 foot high, 5 feet long, with 3,200 feet of 6-inch pipe to distribution system.	
D-3S/6E-27C1 (Sheet 18)	Andrew Burgess	Hembrey Creek	Irrig.	3 acres by sprinkler	Not meas.	Riparian	--	--	About 1915	Gravity; earth and wood dam 4 feet high, 5 feet long, with about 1,000 feet of 1, 2, and 3-inch pipe to distribution system.	Former owners: T. B. Eastman, Claude Jones, Walter Bailey, W. Bailey's heirs.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Sequoia Subunit (Continued)						
R B & M											
D-3S/6E-27C2 (Sheet 18)	Andrew Burgess	Hembrey Creek	Irrig.	8 acres by sprinkler	Not meas.	Riparian	--	--	About 1915	Gravity; earth and wood dam 3 feet high, 5 feet long, with short pipeline to distribution system.	Former owners: T. B. Eastman, Claude Jones, Walter Bailey, W. Bailey's heirs.
					Van Duzen River Subunit						
H B & M											
D-1N/3E-14L1 (Sheet 8)	Bridgeville Water System	Hoagland Creek	Munic.	40 connections	Not meas.	Agreement	--	Deed	About 1940	Gravity; 800 feet of 1-1/2-inch pipe to storage tank, and 5,000 feet of 2-inch pipe to distribution system.	
D-2N/1E-28B1 (Sheet 5)	T. A. Carlson	Yager Creek	Irrig.	6 acres by sprinkler	Not meas.	Riparian	--	--	Prior 1952	Pump; 7-1/2-hp electric motor with short pipeline to distribution system.	Former owners: C. Raley, Sawyer Lumber Company.
D-2N/1E-35H1 (Sheet 5)	George B. Corbett	Van Duzen River	Irrig.	14 acres by sprinkler	27	Riparian	--	--	1958	Pump; 10-hp electric motor with 1,000 feet of 6-inch pipe to distribution system.	
D-2N/1E-36M1 (Sheet 5)	George B. Corbett	Van Duzen River	Irrig. Stock.	31 acres by sprinkler 30 head	48	Riparian	--	--	1915	Pump; 10-hp electric motor and distribution system which includes 1,500 feet of 6-inch main.	Former owners: Cummings, B. W. Corbett.
D-2N/4E-27G1 (Sheet 6)	N. E. and Violet Ackley	Tributary to Van Duzen River	Irrig. Power	13 acres by sprinkler 3.5 kw	Not meas.	Riparian	--	--	1953	Gravity; earth dam 2 feet high, 12 feet long, with 700 feet of earth ditch to small reservoir and 1,700 feet of 6-inch pipe to area of use.	
D-1S/5E-9H1 (Sheet 12)	Jettie B. Rill	South Fork Van Duzen River	Irrig.	4 acres by sprinkler	Not meas.	Riparian	--	--	Prior 1942	Gravity; small earth dam with 1.2 miles of earth ditch.	Former owner: Joe Albee.
					Wilderness Subunit						
					(No diversions located in this subunit.)						
					Willis Ridge Subunit						
M D B & M											
D-18N/11W-7F1 (Sheet 43)	Don and C. W. Todd*	Whitney Creek	Irrig. Domestic	49 acres by sprinkler (b)	206	Riparian	--	--	Prior 1900	Gravity; 0.75 mile of earth ditch to small reservoir, and 0.1 mile of 6-inch pipe to area of use.	Ownership changed from John Boyer to Don and C. W. Todd in November 1958. Former owners: Frazer, Hughes, Fannie Dashiel.
D-18N/11W-7M1 (Sheet 43)	Don and C. W. Todd*	Whitney Creek	Irrig. Stock.	12 acres by flooding 105 head	181	Riparian	--	--	Prior 1900	Gravity; concrete dam 2 feet high, 10 feet long, with short 10-inch pipeline and 0.4 mile of earth ditch to distribution system.	Ownership changed from John Boyer to Don and C. W. Todd in November 1958. Former owners: Frazer, Hughes, Fannie Dashiel.

* - See remarks.
For lettered footnotes, see last page of table.

TABLE 6 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

Diversion location and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1958			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					Willis Ridge Subunit (Continued)						
M D B & M											
D-18N/12W-7D1 (Sheet 42)	Bargsten Brothers	Tomki Creek	Irrig.	8 acres by sprinkler	12	Approp.	0.5 cfs	A-16355[a,*]	1953	Pump; 15-hp electric motor with direct connection to distribution system.	Application 16355[a] in name of Doris E. Bargsten in 1958.
D-18N/12W-12E1 (Sheet 42)	Harold Seeger	Tributary to Eel River	Irrig.	3 acres by sprinkler	Not meas.	(c)	--	--	About 1955	Gravity; rock and earth dam 4 feet high, 4 feet long, with 400 feet of 4-inch pipe.	
D-19N/12W-8Q1 (Sheet 40)	Edmund F. Steinmeyer*	Eel River	Irrig.	4 acres by sprinkler	5	Approp.	0.05 cfs	A-13699[a]	1950	Pump; 5-hp electric motor with direct connection to distribution system.	Ownership changed to W. T. Ramsing in August 1961.
D-19N/12W-17A1 (Sheet 40)	Edmund F. Steinmeyer*	Eel River	Irrig.	34 acres by sprinkler	68	Approp.	0.44 cfs	A-13699[a]	1950	Pump; 20-hp electric motor with direct connection to distribution system.	Ownership changed to W. T. Ramsing in August 1961.
D-19N/12W-17J1 (Sheet 40)	Edmund F. Steinmeyer*	Eel River	Irrig.	(*)	None	Approp.	0.07 cfs	A-13699[a]	1950	Pump; 10-hp electric motor with direct connection to distribution system.	Ownership changed to W. T. Ramsing in August 1961. Previously irrigated 5 acres, not used in 1958.
D-19N/12W-21A1 (Sheet 40)	Clive Adams	Eel River	Irrig.	38 acres by sprinkler	124	Riparian	--	--	1953	Pump; 20-hp electric motor with direct connection to distribution system.	
					Yager Creek Subunit						
					(No diversions located in this subunit.)						

* - See remarks.
a - Refers to application to appropriate water filed with State Water Rights Board.
b - Domestic uses by less than five families or connections.
c - Insufficient information to determine type of water right.
d - Trinity County records.

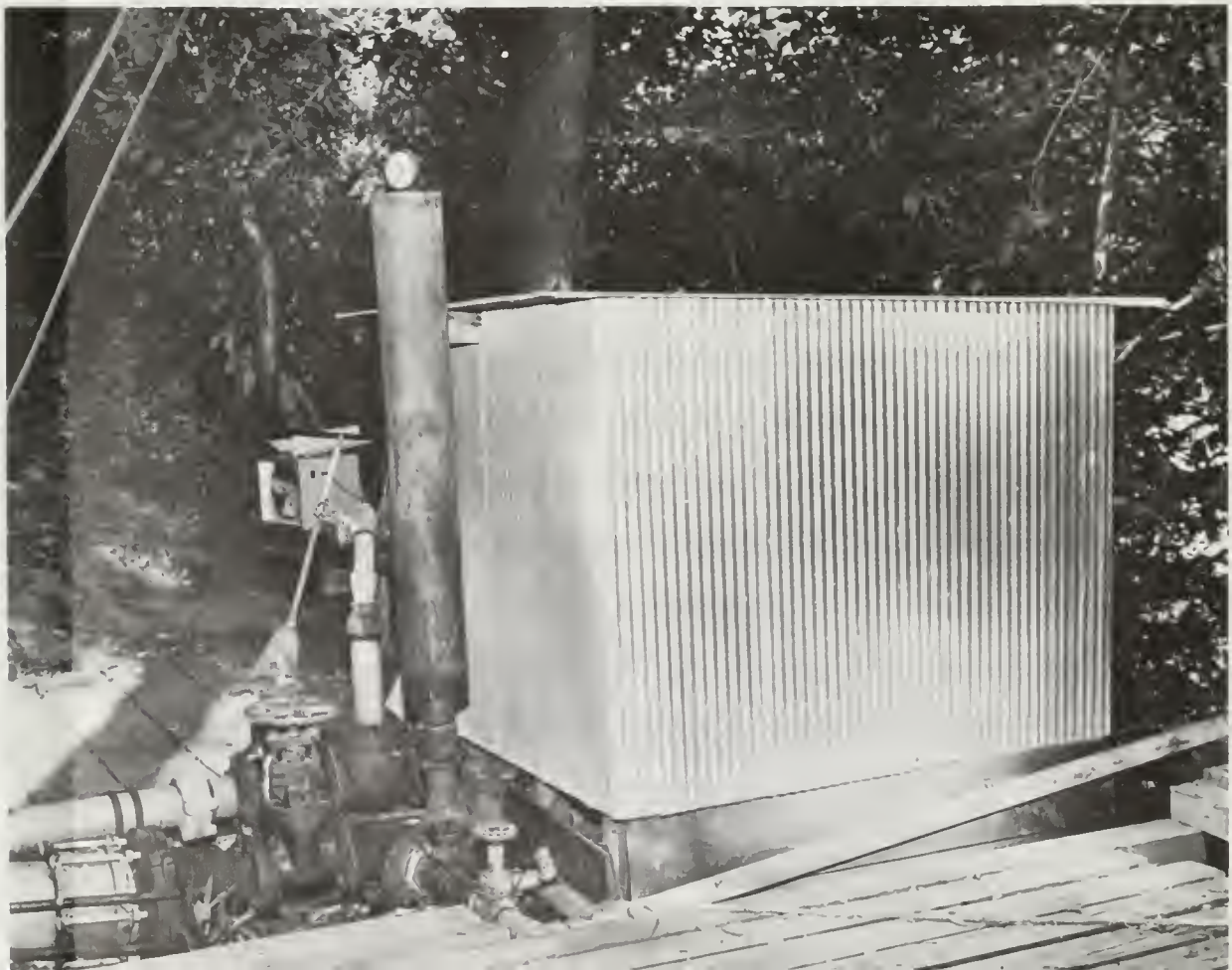
Stockwatering of less than 10 head of livestock is classified under domestic use. The extent of irrigation use is based on the land use survey described in Chapter III.

The types of water rights under which the respective diversions are considered to be made are indicated in Table 6 under "apparent water rights." Diversions apparently made under rights based on the appropriative doctrine are listed as "appropriative." Those diversions for which the conditions for riparian use apparently prevail, but for which no appropriation was known to exist, are listed as "riparian." The appropriative doctrine and the criteria for riparian water rights are described in Appendix C, "Legal Considerations." Rights listed as "appropriative" may also have riparian status, but no attempt was made in such cases to determine the dual basis.

The actual amount of the right, if established and known, and a reference to the source of the data, are also included under "apparent water right." In the case of an appropriative right, the amount tabulated is that found in the filing, application, permit or license which pertains. The reference given for an appropriation initiated after the effective date of the Water Commission Act of 1914 is the number of the application on file with the State Water Rights Board. For an appropriation made prior to 1914, the reference, if known, is the book and page number of the official records of the county in which the diversion is located. In this report, references to the "miner's inch" are quotes from the appropriative filings and no attempt was made to evaluate these in cubic feet per second.

The determination of water rights under which the various diversions are made is based upon the best information available from the owner, from files of the State Water Rights Board, from official records, and from other available sources. Although this information is believed to be accurate, it

Illustration 7. Storage diversion for irrigation near Laytonville Diversion D-21N/15W-3L1



Illustratio
Redway Wate
Company
diversion f
South Fork
Eel River
D-4S/3E-14L

is emphasized that it is not based on sworn claims or testimony and should in no way be construed to represent a conclusive determination of water rights.

Detailed descriptions of the diversion systems, including dams, pumps, and main conduits, as well as any special features, are given in the "description of system" column. The diversions are classified as gravity, pump, or storage, according to the following definitions:

> Gravity diversion - A system by which water is taken from its natural course at a diversion structure and conveyed by gravity through a canal or pipeline to the area of use. Such a diversion may have a reservoir on the stream but the capacity is small compared with the amount of water diverted and provides no significant carry-over seasonal storage.
>
> Pump diversion - A system by which water is pumped from its natural course through a pipeline to the area of use or to a gravity conduit located at a higher elevation.
>
> Storage diversion - A system consisting of or including a surface reservoir having significant carry-over storage within each season or from season to season.

Systems not exclusively of one of these basic types are listed as combinations of those types which best describe them.

The "remarks" column contains such information as the names of former owners, changes of ownership after the year of study, and further details explaining entries in the other columns.

Measurements of Surface Water Diversions

Quantities of water diverted were measured, where feasible, to provide additional basic data concerning water use which will be helpful in determining water requirements of the unit. These measurements were made on only 113 of the 212 diversions described in Table 6, because the aerial photographs were not available in time to locate all the diversions in advance.

The measured quantities do not necessarily represent average annual quantities, since during any single year the quantity diverted is influenced

by precipitation during the growing season and the available streamflow. Causes other than weather and available water supply, such as economic factors may also affect the degree to which any diversion record is typical of normal operating conditions. Assessment of these factors is outside the scope of this report. The diversion quantities reported herein generally represent the actual amounts of water taken from the respective sources, and therefore include recoverable and irrecoverable losses incidental to the intended use.

Records of Surface Water Diversions. Detailed results of the measurement program are reported in Table 7. For each diversion measured, this table gives the purposes served, the point and method of measurement, and the monthly and annual quantities diverted. Notations in the "use" column regarding the irrigation period indicate the overall period of irrigation, but not necessarily that daily or continuous irrigation was practiced throughout the period. Where monthly data were sufficiently reliable, the quantities are shown. When the quantity diverted during a month is known to have been zero, it is so indicated. The measurements are designated as estimates when only incomplete or somewhat uncertain data could be obtained.

Index to Surface Water Diversions

An alphabetical index to diversion names and owners is provided in Table 8 at the end of this chapter. This table gives the diversion location with the base and meridian, the subunit, and the county of each diversion, and also for convenience in finding data in the report, the sheet number of Plate 2 and a list of pages on which pertinent data appear.

Imports and Exports

Surface water is imported into the Eel River Hydrographic Unit from three diversions on the Mad River. These diversions are described in

TABLE 7

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
H B & M					Bell Spring Subunit													
D-4S/7E-19G1	Dean Witter	Irrigation 7/1/58 - 10/15/58	At pump	Pump test and hours of operation	0	0	0	0	0	0	28	16	5	2	0	0	51	
D-5S/7E-29P1	Dean Witter	Power 1/1/58 - 7/15/58 and 10/1/58 - 12/31/58 Irrigation 7/15/58 - 9/30/58 Domestic	At power plant and area of use	Nozzle rating and hours of operation	9	8	8	8	9	8	10	12	11	9	8	9	109	
					Black Butte River Subunit													
					(No diversions measured)													
					Cape Mendocino Subunit													
D-1N/2W-21A1	William E. Lowery	Irrigation 6/4/59 - 7/13/59	At pump	Pump test and hours of operation	0	0	0	0	0	1	3	0	0	0	0	0	4	
D-1S/2W-28R1	Joseph R. Cook	Irrigation 5/14/59 - 9/16/59	At pump	Pump test and power records	0	0	0	0	11	36	37	32	17	0	0	0	133	
D-1S/2W-33J1	Joseph R. Cook	Irrigation 5/14/59 - 9/16/59	At pump	Pump test and power records	0	0	0	0	3	11	13	12	5	0	0	0	44	
D-2S/1W-28P1	Wesley C. Roscoe	Irrigation 5/15/59 - 9/11/59	At pump	Pump test and power records	0	0	0	0	7	12	12	12	5	0	0	0	48	
D-2S/1W-30C1	Louis F. Adams	Irrigation 4/15/59 - 9/16/59	At pump	Pump test and power records	0	0	0	1	6	9	16	16	6	0	0	0	54	
D-2S/1W-30D1	Belle Miner	Irrigation 5/7/59 - 9/16/59 Stockwatering	At pump	Pump test and power records	0	0	0	0	2	3	3	3	2	0	0	0	13	
D-2S/1W-34E1	Wesley C. Roscoe	Irrigation 5/15/59 - 9/12/59	At pump	Pump test and hours of operation	0	0	0	0	13	16	20	16	7	0	0	0	72	
D-2S/1W-34K1	H. P. Lumber Co.	Industrial 5/20/59 - 12/31/59	At pump	Pump test and power records	0	0	0	0	112	172	124	132	120	106	103	72	941	
D-2S/2W-11G1	Lloyd Roberts	Irrigation 5/20/59 - 9/16/59 Stockwatering	At pump	Pump test and power records	0	0	0	0	3	5	8	5	3	0	0	0	24	
D-2S/2W-24E1	Harold Lawrence	Irrigation 5/14/59 - 9/11/59 Stockwatering domestic	At pump	Pump test and power records	0	0	0	0	4	7	6	5	1	0	0	0	23	
D-2S/2W-24L1	Harold Lawrence	Irrigation 5/14/59 - 9/16/59 Stockwatering domestic	At pump	Pump test and power records	0	0	0	0	10	17	22	16	6	0	0	0	71	
D-3S/1W-1M1	Joseph N. D. Rindley (deceased)	Irrigation 5/21/59 - 9/12/59	At pump	Pump test and hours of operation	0	0	0	0	8	24	29	27	9	0	0	0	97	

μ Cape Mendocino Subunit only, monthly records in 1959.
* See remarks
e Estimated

TABLE 7 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958[μ]

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
H B & M					Cape Mendocino Subunit (Continued)													
D-3S/1W-2E1	Ray Emmett Hunter	Irrigation 3/17/59 - 9/16/59	At pump	Pump test and power records	0	0	1	1	8	18	26	18	7	0	0	0	79	
D-4S/2E-6P1	Lee French	Irrigation 4/26/58 - 10/10/58 and stockwatering	At pump	Estimated discharge and hours of operation	0	0	0	1[e]	5[e]	8[e]	12[e]	10[e]	8[e]	2[e]	0	0	46[e]	
D-5S/2E-22C1	M & C Lumber Co.	Industrial 5/4/59 - 8/7/59	At pump	Pump test and hours of operation	0	0	0	0	1	1	0	1	0	0	0	0	3	
					Eisel Subunit													
					(No diversions measured)													
					Eureka Plain Subunit													
D-4N/1W-15N1	Charlie Berta	Irrigation and stockwatering 6/12/58 - 10/18/58	At pump	Pump test and hours of operation	0	0	0	0	0	3[e]	4[e]	4[e]	4[e]	2[e]	0	0	17[e]	
D-4N/1W-16J1	John D. Sullivan, et al.	Irrigation and stockwatering 6/1/58 - 10/15/58	At pump	Pump test and power records	0	0	0	0	0	12	12	12	9	4	0	0	49	
D-4N/1W-16K1	Peter F. and Lucille M. Lorenaen	Irrigation and stockwatering 6/15/58 - 10/1/58	At pump	Pump test and power records	0	0	0	0	3	9	30	29	18	0	0	0	89	
D-4N/1W-21A1	Natale Dellabalma	Irrigation and stockwatering 5/15/58 - 10/15/58	At pump	Pump test and power records	0	0	0	0	9	17	22	23	16	7	0	0	94	
D-4N/1W-22M1	Manuel B. Estevo	Irrigation 6/22/58 - 9/30/58	At area of use	Volumetric flow measurement and hours of operation	0	0	0	0	0	2	6	6	6	0	0	0	20	
D-4N/1W-22N1	Manuel B. Estevo	Irrigation 6/22/58 - 9/30/58 and stockwatering	At area of use	Volumetric flow measurement and hours of operation	--	--	NR	--	--	4	13	13	12	--	NR	--	42[e]	Reported diversion total does not include an undetermined amount for stockwatering
D-4N/1W-26K1	Math Camathias	Irrigation, domestic and stockwatering	At pump	Pump test and hours of operation	0	0	0	0	0	2[e]	2[e]	2[e]	0	0	0	0	6[e]	
D-4N/1W-26R1	Paul and Claire Mazzucchi	Irrigation, domestic and stockwatering	At pump	Pump test and hours of operation	0	0	0	0	0	8[e]	11[e]	10[e]	0	0	0	0	29[e]	
D-4N/1W-27A1	Elk River Mill and Lumber Co.	Irrigation and stockwatering 7/1/58 - 9/15/58	At pump	Pump test and hours of operation	0	0	0	0	0	0	9[e]	8[e]	2[e]	0	0	0	19[e]	
D-5N/1E-4Q1	Arthur Ford	Irrigation and stockwatering	At pump	Pump test and power records	0	0	0	0	0	0	3	22	9	0	0	0	34	
D-5N/1E-10G1	James Elmar	Irrigation and stockwatering 7/15/58 - 10/15/58	At pump	Pump test and hours of operation	0	0	0	0	0	0	7[e]	12[e]	12[e]	6	0	0	37[e]	
D-5N/1E-10H1	Homer A. Fisher	Irrigation 6/15/58 - 10/15/58	At pump	Pump test and hours of operation	0	0	0	0	0	6[e]	12[e]	12[e]	4[e]	5[e]	0	0	39[e]	

μ Cape Mendocino Subunit only, monthly records in 1959.
• See remarks
-- Monthly value unknown
--NR-- No record for period indicated

TABLE 7 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet												Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
H B & M				Eureka Plain Subunit (Continued)														
D-5N/1E-21F1	Harry McLean	Irrigation 5/3/58 - 9/7/58	At pump	Pump test and hours of operation	0	0	0	0	2	1	2	3	1	0	0	0	9	
D-5N/1E-29P1	Chris H. Nielsen	Irrigation and stockwatering	At pump	Pump test and hours of operation	0	0	0	0	0	0	5	5	3	0	0	0	13	
D-5N/1E-31C1	Joseph H. Hinch	Irrigation and stockwatering 6/23/58 - 7/26/58	At pump	Estimated discharge and hours of operation	0	0	0	0	0	0	1[e]	0	0	0	0	0	1[e]	
D-5N/1E-33D1	Mrs. Campbell McClosky	Irrigation and stockwatering 6/15/58 - 9/15/58	At pump	Pump test and hours of operation	0	0	0	0	0	11	17	17	8	0	0	0	53	
D-5N/1E-33L1	Otto Kauseo	Irrigation 5/1/58 - 10/28/58	At pump	Pump test and power records	0	0	0	0	2	3	4	3	3	1	0	0	16	
D-5N/1E-33Q1	Louis Conti	Irrigation	At pump	Pump test and hours of operation	0	0	0	0	0	0	1	1	0	0	0	0	2	
D-6N/1E-21O1	City of Arcata	Municipal	At filter plant	City of Arcata measurement	1	1	1	0	1	0	0	0	0	0	0	0	4	
D-6N/1E-27E1 D-6N/1E-28H1	City of Arcata	Municipal	At filter plant	City of Arcata measurement	23	19	16	22	26	14	24	17	6	0	2	1	170	
D-6N/1E-28Q1	Park Reservoir City of Arcata	Municipal	--	City of Arcata measurement	0	0	0	0	0	2	4	4	2	3	3	2	20	
H B & M				Humboldt Redwoods Subunit														
D-1S/2E-30E1	Hugh K. Thornton	Irrigation and stockwatering	At pump	Pump test and hours of operation	0	0	0	0	0	0	1	0	0	0	0	0	1	
D-2S/3E-34N1	C. K. Bowman	Irrigation and domestic	At pump	Estimated discharge and hours of operation	0	0	0	0	0	1[e]	1[e]	1[e]	0	0	0	0	3[e]	
D-3S/3E-5P1	Rae Wright	Irrigation 7/19/58 - 8/21/58	At pump	Pump test and hours of operation	0	0	0	0	0	0	1	1	0	0	0	0	2	
D-3S/3E-8C1	Charles Berry and Russell Fleet	Irrigation	At pump	Pump test and power records	0	0	0	0	0	0	2	1	0	0	0	0	3	
M O B & M				Lake Benbow Subunit														
D-23N/17W-14Q1	Cedar Creek Fish Hatchery	Fish culture	At intake	Depth-flow relationship and hours of operation	415	374	414	401	414	401	415	414	401	414	401	415	4,879*	Reported amount diverted includes 341 acre-feet spilled from settling pond to creek.
D-24N/17W-6E1	Riverside Lumber Company	Industrial	At pump	Pump rating and hours of operation	0	0	0	0	6	4	4	6	1	3	0	0	24	
D-4S/3E-2K1	E. O. Wood	Irrigation and stockwatering 5/3/58 - 10/30/58	At pump	Pump test and power records	0	0	0	0	16	21	39	41	31	23	0	0	171	
D-4S/3E-11M1	Redway Water Company	Municipal	At pump	Pump test and power records	4	3	4	3	2	2	2	2	2	2	2	3	31	

* See remarks
e Estimated

TABLE 7 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
R B & M				Lake Benbow Subunit (Continued)														
D-4S/3E-14L1	Redway Water Company	Municipal	At pump	Pump test and power records	1	0	3	5	12	18	25	22	14	10	6	4	120	
D-4S/3E-24C1	W. W. and Velma V. Marshall	Irrigation	At pump	Pump test and power records	0	0	0	0	0	1	7	5	4	2	0	0	19	
D-4S/3E-24N1	Carroll Pancoast	Irrigation	At pump	Pump test and power records	0	0	0	0	7	6	9	10	5	2	0	0	39	
D-4S/3E-24P1	Garberville Water Company, Inc.	Municipal	At area of use	Company water meter records	7	6	6	8	12	13	16	19	17	10	8	7	129	
D-4S/3E-36J1	Benbow Trust	Irrigation	At pump	Pump test and power records	0	0	0	0	3	10	19	13	7	4	1	0	57	
D-5S/3E-24Q1	Lloyd F. Cook	Irrigation and stockwatering	At pump	Pump test and power records	0	0	0	0	0	2	4	2	0	0	0	0	P	
D-5S/4E-4A1	Alice H. Kinsey	Irrigation 6/7/58 - 10/16/58	At pump	Pump test, power records, and hours of operation	0	0	0	0	0	26	35	33	29	14	0	0	137	
M O B & M				Lake Pillsbury Subunit														
D-18N/10W-23D1	Scott Dam	Storage for export	At reservoir	(*)	140	120	200	560	1,020	1,330	1,530	1,240	780	320	90	70	7,400*	Reported amount diverted is estimated evaporation.
D-18N/11W-29P1	Ukiah Pine Lumber Company	Industrial	At pump	Pump test and power records	4	3	0	26	54	26	30	24	68	57	27	9	328	-P
D-18N/11W-30H1	Van Arsdale Dam	Export	At power house tailrace	Water stage recorder	18,060	14,810	18,100	17,640	15,800	13,850	13,250	12,970	15,850	17,270	14,330	6,930	178,950	
H B & M				Larabee Creek Subunit														
D-1S/4E-35J1	Everett O. Kay	Irrigation 7/16/58 - 9/9/58	At pump	Pump test, power records and hours of operation	0	0	0	0	0	0	11	11	2	0	0	0	24	
D-2S/5E-7Q1	Fred Fearrien	Irrigation 7/12/58 - 9/10/58	At pump	Pump test and hours of operation	0	0	0	0	0	0	4	2	1	0	0	0	7	
M D B & M				Laytonville Subunit														
D-21N/15W-3N1	George S. Daniels	Irrigation	At pump	Pump test and power records	0	0	0	0	3	12	16	11	5	4	0	0	51	
D-21N/15W-3P1	George S. Daniels	Irrigation	At pump	Pump test and power records	0	0	0	0	0	9	18	15	15	11	0	0	68	
D-21N/15W-3Q1	George S. Daniels	Irrigation and domestic	At pump	Pump test and power records	0	0	0	---	---	---	--**--	---	---	---	0	0	15*	
D-21N/15W-11M1	George L. Jessup	Irrigation	At pump	Pump test and hours of operation	0	0	0	0	0	0	2	4	2	0	0	0	8	
D-21N/15W-14B1	A. W. Ahmann	Industrial	At pump	Pump test and hours of operation	0	0	0	0	0	2	3	3	3	3	3	3	23	
D-21N/15W-14N1	Ben Mast	Irrigation 7/4/58 - 9/30/58	At pump	Pump test and power records	0	0	0	0	0	0	0	20	19	9	0	0	48	

☆ See remarks
e Estimated
--**-- Diversion estimated for period indicated

TABLE 7 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
M O B & M				Loytonville Subunit (Continued)														
D-21N/15W-15G1	Sam Manor, Sr.	Irrigation 5/5/58 - 11/17/58 and domestic	300 feet below intake	Depth-flow relationship and staff gage	69[e]	63[e]	69[e]	67[e]	88	75	69	53	46	41	68	56	764[e]	
D-21N/15W-22G1	Ben Mast	Irrigation and stockwatering 5/5/58 - 11/1/58	200 feet below intake	Depth-flow relationship and staff gage	0	0	0	0	177	161	102	74	63	63	41*	0	681*	Amount diverted includes 41 acre-feet of spill returned to Cahto Creek 11/1/58 - 11/15/58.
D-22N/15W-22E1	Leonard Berchtold	Irrigation	At pump	Pump test, power records, and hours of operation	0	0	0	0	0	11	9	17	2	2	0	0	41	*
D-22N/15W-26P1	Warren S. and Lorraine R. Woodruff	Industrial	At pump	Pump test and hours of operation	0	0	0	1	8	8	9	7	10	5	0	0	48	
H B & M				Lower Eel Subunit														
D-1N/1E-5N1	Leroy C. Todd	Irrigation and stockwatering	At pump	Pump rating and power records	0	0	0	0	0	0	23	24	2	0	0	0	49	
D-1N/1E-18B1	The Pacific Lumber Company	Municipal*	At area of use	Company water meter records	61	38	58	68	126	104	134	130	114	186	158	100	1,277*	Municipal use was approximately 384,000 gallons per day.
D-1N/1E-22C1	Ferdinand M. Perra	Irrigation and stockwatering	At pump	Pump test and power records	0	0	0	0	0	0	15	14	3	0	0	0	32	
D-1N/2E-33N1	Frank E. and Olieva L. Casey	Irrigation and stockwatering	At pump	Pump test and power records	0	0	0	0	0	5	6	4	0	0	0	0	15	
D-2N/1E-31L1	George W. Evans	Irrigation 5/16/58 - 9/20/58	At pump	Pump test, power records, and hours of operation	0	0	0	0	4	5	9	9	5	0	0	0	32	
D-2N/1W-6E1	Pauline Flynn	Irrigation 7/6/58 - 9/30/58	At pump	Pump test and power records	0	0	0	0	0	0	19	23	10	0	0	0	52	
D-2N/1W-6L1	Antone Regli	Irrigation	At pump	Pump test and power records	0	0	0	0	3	3	10	11	7	1	0	0	35	
D-2N/1W-27E1	Robert E. and Lois L. Reaner	Irrigation 5/20/58 - 9/5/58	At booster pump	Pump test and hours of operation	0	0	0	0	7	14	27	14	1	0	0	0	63	
D-2N/1W-35J1	Anna Biasca	Irrigation 6/1/58 - 10/15/58	At pump	Pump test and power records	0	0	0	0	0	11	16	16	6	2	0	0	51	
D-2N/1W-36M1	Fred Bravo	Irrigation	At pump	Pump test and power records	0	0	0	0	6	11	18	18	4	0	0	0	57	
D-2N/2W-1N1	Ugo Valsecchi	Irrigation 6/5/58 - 8/29/58	At pump	Pump test and hours of operation	0	0	0	0	0	2	1	1	0	0	0	0	4	
D-2N/2W-5J1	Elizabeth A. Rasmussen and Ronald V. Smith	Irrigation 5/17/58 - 9/11/58	At pump	Pump test and hours of operation	0	0	0	0	1	4	5	5	1	0	0	0	16	
D-2N/2W-10B1	Port Kenyon Water System	Municipal	At area of use	Meter records	3	2	3	3	3	3	3	3	2	3	2	2	32	

* See remarks
e Estimated

TABLE 7 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet												Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
H B & M				Lower Eel Subunit (Continued)														
D-2N/2W-11L1 D-2N/2W-11P1 D-2N/2W-11Q1	Ferndale Water System, Citizens' Utilities Company of California	Municipal	At area of use	Company water meter records	7	6	7	7	8	11	11	11	11	8	8	7	102	
D-2N/2W-13B1	L. E. Paine	Irrigation 7/2/58 - 8/30/58	At pump	Pump test and hours of operation	0	0	0	0	0	0	5	6	0	0	0	0	11	
D-3N/2W-12K1	Walter Bognuda	Irrigation	At pump	Pump test and power records	0	0	0	0	4	8	15	14	2	0	0	0	43	
D-3N/2W-35H1	Joe E. Silva	Irrigation 5/16/58 - 10/17/58	At pump	Pump test and hours of operation	0	0	0	0	5	18	22	20	4	4	0	0	73	
M D B & M				North Fork Subunit														
0-24N/13W-Tr 54N1	Merrill D. and Leora W. Reed	Domestic and power	At intake	Nozzle rating and hours of operation	3	2	3	2	2	2	3	2	2	3	2	3	29	
H B & M																		
D-4S/7E-16L1	Merlin Goodwin	Irrigation 4/28/58 - 9/14/58 and industrial	At pump	Pump test and hours of operation	0	0	0	1	2	0	3	3	2	1	0	0	12	
D-5S/7E-17R1	Leonard M. Miller	Irrigation 5/4/58 - 12/8/58, domestic and stockwatering	At intake	Pump test and hours of operation	0	0	0	0	1	1	2	2	1	2	2	1	12	
D-5S/7E-20A1	Leonard M. Miller	Irrigation 5/25/58 - 10/7/58 and stockwatering	At intake	Pump test and hours of operation	0	0	0	0	1	2	3	2	2	1	0	0	11	
D-5S/7E-21D1	Leonard M. Miller	Power	At power plant	Nozzle rating and hours of operation	8	7	8	8	8	7	8	8	4	5	5	5	81	
D-5S/7E-28D1	Roscoe G. and Mabel W. Hotchkiss	Power	At intake	Nozzle rating and hours of operation	8	7	7	7	7	7	8	7	7	7	7	8	87	
M D B & M				Outlet Creek Subunit														
D-18N/13W-9J1	Ray T. Raag	Irrigation 5/6/58 - 8/26/58 and domestic	At pump	Pump test and hours of operation	0	0	0	0	1	0	1	0	0	0	0	0	2	
D-18N/13W-17P1	Willits Ready Mix Company	Industrial	At pump	Pump test and hours of operation	0	0	0	18	17	17	18	17	17	17	18	0	139	
D-18N/13W-33A1	Earl W. Elwinger	Irrigation 7/13/58 - 9/25/58 and stockwatering	At pump	Pump test and hours of operation	0	0	0	0	0	0	1	1	0	0	0	0	2	
D-18N/13W-33H1	Morris Dam	Municipal	At treatment plant	Company measurements	44	39	44	48	63	63	90	99	71	60	42	38	701	
				Round Valley Subunit														
D-22N/12W-5J1	Henry C. and Genevieve Lingua	Irrigation	At pump	Pump test and power records	0	0	0	0	0	7	10	0	0	0	0	0	17	
D-22N/13W-2F1	Hal O. and Christine Schultz	Irrigation 4/30/58 - 9/15/58 and stockwatering	At area of use	Pump test and hours of operation	0	0	0	1	14	38	23	21	2	0	0	0	99	

* See remarks

TABLE 7 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS IN EEL RIVER HYDROGRAPHIC UNIT

1958

Diversion location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet												Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
H B & M					Sequoia Subunit													
D-3S/4E-23E1	Fort Seward Water System	Municipal	At intake	Estimated flow and hours of operation	63e	57e	63e	61e	42e	21e	2e	3e	2e	2e	6e	63e	440e	
D-3S/5E-8R1	Guy N. Satterlee	Irrigation and industrial	At pump	Pump test and power records	0	0	0	0	6	36	94	93	59	35	0	0	323	
D-3S/6E-10K1	Barold C. and Bernice R. Ford	Irrigatioo 4/26/58 - 9/19/58	At intake	Pump test and hours of operation	0	0	0	0	1	1	2	2	1	0	0	0	7	
D-3S/6E-22A1	Boward and Zelma Benninghoven	Irrigation, domestic, and stockwatering	Rear intake	Depth-flow relationship and staff gage	0	0	0	0	4	15	17	14	13	13	1	0	77	
D-3S/6E-23N1	Ralph Burgess	Irrigation 4/22/58 - 10/2/58, power and stockwatering	At power plant	Nozzle rating and hours of operation	9	8	9	9	12	9	16	13	10	9	9	9	122	
H B & M					Van Duzen River Subunit													
D-2N/1E-35H1	George B. Corbett	Irrigatioo 5/28/58 - 11/15/58	At pump	Pump test and power records	0	0	0	0	0	5	6	8	5	3	0	0	27	
D-2N/1E-36M1	George B. Corbett	Irrigation and stockwatering 5/1/58 - 8/15/58	At pump	Pump test and power records	0	0	0	0	10	5	11	14	5	3	0	0	48	
					Wilderness Subunit													
					(No diversions measured)													
M D B & M					Willis Ridge Subunit													
D-18N/11W-7F1	Don and C. W. Todd	Irrigation and domestic	At intake	Depth-flow relationship and staff gage	15	14	15	15	13	20	10	20	23	33	20	8	206	
D-18N/11W-7M1	Don and C. W. Todd	Irrigation and stockwatering	At area of use	Pump test and hours of operation	0	0	0	0	12	33	44	44	43	5	0	0	181*	Does not include an undetermined amount of spill.
D-18N/12W-7D1	Bargsten Brothers	Irrigation 7/17/58 - 10/18/58	At pump	Pump test and power records	0	0	0	0	0	0	5	2	4	1	0	0	12	
D-19N/12W-8Q1	Edmund F. Steinmeyer	Irrigation 7/12/58 - 10/15/58	At pump	Pump test and power records	0	0	0	0	0	0	1	1	1	2	0	0	5	
D-19N/12W-17A1	Edmund F. Steinmeyer	Irrigation 5/16/58 - 10/30/58	At pump	Pump test and hours of operatioo	0	0	0	0	6	2	16	20	21	3	0	0	68	
D-19N/12W-21A1	Clive Adams	Irrigation 5/4/58 - 10/10/58	At pump	Pump test and power records	0	0	0	0	20	10	31	33	19	11	0	0	124	
					Yager Creek Subunit													
					(No diversions measured)													

* See remarks
e Estimated

Bulletin No. 94-7, "Land and Water Use in Mad River-Redwood Creek Hydrographic Unit." Two of these diversions are used for irrigation of lands lying within both hydrographic units. They are listed in Bulletin 94-7 under the names of owners, Marion J. Horton and Manual Santos. The third diversion is for municipal use within the City of Eureka and is listed in Bulletin 94-7 under the name of Sweasey Dam.

There are two diversions for export of surface water from the Eel River Hydrographic Unit. These diversions are Scott Dam, D-18N/10W-23D1, and Van Arsdale Dam, D-18N/11W-30H1, both belonging to the Pacific Gas and Electri Company. Detailed information concerning the use of water from these diversions will be presented in Bulletin 94-11, "Land and Water Use in Russian River Hydrographic Unit," which is scheduled to be published in 1964.

Consumptive Use

In the Eel River Hydrographic Unit, virtually all of the consumptive use of applied water is for irrigated agriculture, lumber mills, and urban use. Consumptive use of water is defined as water consumed by vegetative growth in transpiration and building of plant tissue, and by water evaporated from foliage, adjacent soil, and water surface; and also it includes water similarly consumed and evaporated by urban and nonvegetative types of land use. The consumptive use of water for hydroelectric power generation, fish culture, and mining operations is negligible, consisting primarily of evaporation from canal and pond surfaces.

The total consumptive use of applied water, in the Eel River Hydrographic Unit in the year of study is estimated to have been about 40,000 acre-feet. This represents less than one percent of the mean annual runoff of the unit.

TABLE 8

INDEX TO SURFACE WATER DIVERSIONS IN

EEL RIVER HYDROGRAPHIC UNIT

Diversion name or owner	Diversion location and Base and Meridian	Subunit and County	References	
			Plate 2 Sheet no	Text and appendixes Page nos.
Ackley, N. E. and Violet	D-2N/4E-27G1 Humboldt	Van Duzen River Humboldt	6	49, 89
Adams, Clive	D-19N/12W-21A1 Mt. Diablo	Willis Ridge Mendocino	40	50, 61, 90
Adams, Louis F.	D-2S/1W-30C1 Humboldt	Cape Mendocino Humboldt	13	31, 55, 85, C-17
Ahmann, A. W.	D-21N/15W-14B1 Mt. Diablo	Laytonville Mendocino	34	42, 58
Angelo, Heath	D-22N/16W-29H1 Mt. Diablo	Laytonville Mendocino	31	43, C-12
Arcata, City of	D-6N/1E-21G1 D-6N/1E-27E1 D-6N/1E-28H1 Humboldt See also Park Reservoir	Eureka Plain Eureka Plain Eureka Plain Humboldt	1 1 1	35, 57, C-12 35, 57, C-12 36, 57, C-12
Asher, Edward C.	D-18N/14W-12D1 Mt. Diablo	Outlet Creek Mendocino	42	47, 89
Bargsten Brothers	D-18N/12W-7D1 Mt. Diablo	Willis Ridge Mendocino	42	50, 61, 90, C-18
Barri, Henry C. and Aida M.	D-2N/3W-13H1 Humboldt	Cape Mendocino Humboldt	5	31, 85, C-19
Bartlett, T. F.	D-4N/1W-28M1 Humboldt	Eureka Plain Humboldt	2	34, 86
Bassey, D.	D-3N/1W-9E1 Humboldt	Eureka Plain Humboldt	3	32, 85
Baywood Golf and Country Club	D-5N/1E-2M1 Humboldt	Eureka Plain Humboldt	1	34
Bee River Lumber Company	D-1S/1E-25G1 Humboldt	Humboldt Redwoods Humboldt	10	36
Benbow Dam, Benbow Trust	D-4S/3E-36N1 Humboldt	Lake Benbow Humboldt	20	40, C-10
Benbow Trust	D-4S/3E-36J1 Humboldt See also Benbow Dam and Benbow Water Company	Lake Benbow Humboldt	20	40, 58, C-10
Benbow Water Company, Benbow Trust	D-4S/3E-36H1 Humboldt	Lake Benbow Humboldt	20	39, C-10
Benninghoven, Howard and Zelma	See Burgess, Ed, Jr.			
Berchtold, Leonard	D-22N/15W-22E1 Mt. Diablo	Laytonville Mendocino	31	42, 59, 87
Berg, Jalmer Meneke, A. W. Siemens, Cornelius H. Walter, H. E.	D-6N/1E-32M1 Humboldt	Eureka Plain Humboldt	1	36, 86, C-15

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Berry, Charles and Fleet, Russell	D-3S/3E-8C1 Humboldt	Humboldt Redwoods Humboldt	17	37, 57, 86
Berry, Marjorie R.	D-3S/3E-8D1 Humboldt	Humboldt Redwoods Humboldt	17	37, 86
Berta, Charlie	D-4N/1W-15N1 Humboldt	Eureka Plain Humboldt	2	33, 56, 85, C-14
Biasca, Anna	D-2N/1W-35J1 Humboldt	Lower Eel Humboldt	5	44, 59, 88
Billington, Richard L.	See Elk River Mill and Lumber Company			
Bittencurt, Charles	See Hornbeck, Holton, et al.			
Bognuda, Walter	D-3N/2W-12K1 Humboldt	Lower Eel Humboldt	3	45, 60, 88
Bowles, Nelson C.	D-5N/1E-21M1 Humboldt	Eureka Plain Humboldt	1	35, 86
Bowman, C. K.	D-2S/3E-34N1 Humboldt	Humboldt Redwoods Humboldt	14	37, 57, 86
Boyer, John M. and Esther L.	D-18N/11W-7F1 D-18N/11W-7M1 Mt. Diablo	Willis Ridge Willis Ridge Mendocino	43 43	49, 61, 90 49, 61, 90
Branscomb Enterprises	D-21N/16W-22F1 Mt. Diablo	Laytonville Mendocino	34	42
Branstetter, Prescott	See Coombe, Donald P.			
Bravo, Fred	D-2N/1W-36M1 Humboldt	Lower Eel Humboldt	5	44, 59, 88, C-14
Brazil, Sedge	D-4N/1W-15D1 Humboldt	Eureka Plain Humboldt	2	33, 85, C-21
Bridgeville Water System	D-1N/3E-14L1 Humboldt	Van Duzen River Humboldt	8	49
Brown, Margaret Fuller	D-19N/10W-30H1 Mt. Diablo	Lake Pillsbury Lake	41	41, 87, C-10
Burgess, Andrew	D-3S/6E-27C1 D-3S/6E-27C2 Humboldt	Sequoia Sequoia Trinity	18 18	48, 89 49, 89
Burgess, Ed, Jr.	D-3S/6E-22A1 Humboldt	Sequoia Trinity	18	48, 61, 89
Burgess, Ralph	D-3S/6E-23N1 Humboldt	Sequoia Trinity	18	48, 61, 89, C-14
California State Department of Fish and Game	See Cedar Creek Fish Hatchery			
California State Department of Natural Resources, Division of Beaches and Parks	D-5S/3E-14K1 Humboldt	Lake Benbow Humboldt	23	40, C-17

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Camathias, Math	D-4N/1W-26K1 Humboldt	Eureka Plain Humboldt	2	34, 56, 86, C-14
Carlson, T. A.	D-2N/1E-28B1 Humboldt	Van Duzen River Humboldt	5	49, 89
Casey, Frank E. and Olieva L.	D-1N/2E-33N1 Humboldt	Lower Eel Humboldt	8	43, 59, 88, C-20
Cedar Creek Fish Hatchery California State Department of Fish and Game	D-23N/17W-14Q1 Mt. Diablo	Lake Benbow Mendocino	29	38, 57, C-14
Chambers, John L.	D-2S/2W-10C1 Humboldt	Cape Mendocino Humboldt	13	31, 85, C-16
Christensen, Lola M.	See Mulock, Chauncey O.			
Citizens Utilities Company of California	See Ferndale Water System			
Clausen, Wendell G.	D-4N/1W-9J1 Humboldt	Eureka Plain Humboldt	2	32, 85
Cole, George J.	See Freshwater Water System			
Colli, Phillip	D-18N/13W-19B1 D-18N/13W-19G1 Mt. Diablo	Outlet Creek Outlet Creek Mendocino	42 42	46, 89 46, 89, C-14
Conti, Louis	D-5N/1E-33Q1 Humboldt	Eureka Plain Humboldt	1	35, 57, 86
Cook, Joseph R.	D-1S/2W-28R1 D-1S/2W-33J1 Humboldt	Cape Mendocino Cape Mendocino Humboldt	10 10	31, 55, 85, C-17 31, 55, 85, C-16
Cook, Lloyd F.	D-5S/3E-24Q1 Humboldt	Lake Benbow Humboldt	23	40, 58, 87, C-11
Coombe, Donald P. Branstetter, Prescott	D-1N/3W-23C1 Humboldt	Cape Mendocino Humboldt	7	30
Corbett, George B.	D-2N/1E-35H1 D-2N/1E-36M1 Humboldt	Van Duzen River Van Duzen River Humboldt	5 5	49, 61, 89 49, 61, 89
Cottage Gardens Company, Inc. Kausen, Ronald L. Ward, David S.	D-5N/1W-25M1 Humboldt	Eureka Plain Humboldt	1	35, 86, C-11
Cox, Claudine D.	See Hornbeck, Holton, et al.			
Craig, Weldon L. and Martha H.	See Schultz, Hal G. and Christine			
Crawford Lumber Company	See Ukiah Pine Lumber Company			
Crerar, Robert	D-5S/2E-9E1 Humboldt	Cape Mendocino Humboldt	23	32, 85
Cunningham, Helen	See Hornbeck, Holton, et al.			

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Daniels, George S.	D-21N/15W-3L1	Laytonville	34	41, 52
	D-21N/15W-3N1	Laytonville	34	41, 58, 87
	D-21N/15W-3P1	Laytonville	34	41, 58, 87
	D-21N/15W-3Q1 Mt. Diablo	Laytonville Mendocino	34	41, 58, 87
Dellabalma, Natale	D-4N/1W-16R1	Eureka Plain	2	33, 86, C-14
	D-4N/1W-21A1 Humboldt	Eureka Plain Humboldt	2	33, 56, 86
Douglas, William A. et al.	See Bargsten Brothers			
Drewry, D. R.	D-5S/5E-27N1 Humboldt	Bell Springs Mendocino	24	30
Dugan, C. J.	D-5S/5E-21E1 Humboldt	Lake Benbow Mendocino	24	40
Elgar, James	D-5N/1E-10G1 Humboldt	Eureka Plain Humboldt	1	34, 56, 86, C-10
Elk River Mill and Lumber Company Billington, Richard L.	D-4N/1W-27A1 Humboldt	Eureka Plain Humboldt	2	34, 56, 86, C-20
Elwinger, Earl W.	D-18N/13W-33A1 Mt. Diablo	Outlet Creek Mendocino	42	47, 60, 89
Estevo, Manuel B.	D-4N/1W-22M1	Eureka Plain	2	33, 56, 86
	D-4N/1W-22N1 Humboldt	Eureka Plain Humboldt	2	33, 56, 86
Evans, George W.	D-2N/1E-31L1 Humboldt	Lower Eel Humboldt	5	43, 59, 88, C-18
Fearrien, Fred	D-2S/5E-7Q1	Larabee Creek	15	41, 58, 87
	D-2S/5E-7Q2 Humboldt	Larabee Creek Humboldt	15	41, C-18
Ferndale Water System Citizens Utilities Company of California	D-2N/2W-11L1	Lower Eel	5	44, 60
	D-2N/2W-11P1	Lower Eel	5	44, 60
	D-2N/2W-11Q1 Humboldt	Lower Eel Humboldt	5	45, 60
Fields Landing Water Works	D-4N/1W-17M1 Humboldt	Eureka Plain Humboldt	2	33
Fisher, Henry	See Hornbeck, Holton, et al.			
Fisher, Homer A.	D-5N/1E-10H1 Humboldt	Eureka Plain Humboldt	1	34, 56, 86
Fitzell, Mary	D-1S/4E-4P1 Humboldt	Larabee Creek Humboldt	11	41, 87
Fleet, Russell	See Berry, Charles			
Flournoy, Herb and Dorothy L.	See Neilsen, Chris H.			
Flynn, Pauline	D-2N/1W-6E1 Humboldt	Lower Eel Humboldt	5	44, 59, 88

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Ford, Arthur	D-5N/1E-4Q1 Humboldt	Eureka Plain Humboldt	1	34, 56, 86
Ford, Harold C. and Bernice R.	D-3S/6E-10K1 Humboldt	Sequoia Trinity	18	48, 61, 89, C-14
Fort Seward Water System	D-3S/4E-23E1 Humboldt	Sequoia Humboldt	17	48, 61
Freeman, Edgar	D-19N/14W-8R1 Mt. Diablo	Outlet Creek Mendocino	40	47, 89
French, Lee	D-4S/2E-6P1 Humboldt	Cape Mendocino Humboldt	19	32, 56, 85, C-14
Freshwater Water System Cole, George J.	D-4N/1E-3D1 Humboldt	Eureka Plain Humboldt	3	32
Frier, Willard L.	D-21N/15W-13C1 D-21N/15W-13F1 Mt. Diablo	Laytonville Laytonville Mendocino	34 34	42, 87 42, 87, C-21
Garberville Water Company, Inc.	D-4S/3E-24P1 D-4S/4E-20D1 Humboldt	Lake Benbow Lake Benbow Humboldt	20 20	39, 58, C-12 40
Gasser, William	D-3S/5E-5F1 Humboldt	Sequoia Humboldt	17	48, 89
Genzoli, Joe M.	D-3N/1W-18P1 Humboldt	Lower Eel Humboldt	3	45, 88
Georgia Pacific Corporation, Hammond-California Redwood Division	D-1S/3E-31F1 Humboldt	Sequoia Humboldt	11	47
Goodwin, Merlin	D-4S/7E-16L1 Humboldt	North Fork Trinity	21	45, 60, 88
Groth, Bruno and Usher, Robert	D-5S/2E-22P1 Humboldt	Cape Mendocino Humboldt	23	32, 85
H. P. Lumber Company	D-2S/1W-34K1 Humboldt	Cape Mendocino Humboldt	13	31, 55, C-17
Haag, Ray T.	D-18N/13W-9J1 Mt. Diablo	Outlet Creek Mendocino	42	46, 60, 89, C-18
Hadley, Leland W.	See H. P. Lumber Company			
Halvorsen, Herman and Marie	D-5N/1E-16B1 Humboldt	Eureka Plain Humboldt	1	34, C-10
Hargus, John	D-22N/15W-23M1 Mt. Diablo	Laytonville Mendocino	31	43, 88
Hill, Jettie B.	D-1S/5E-9H1 Humboldt	Van Duzen River Humboldt	12	49, 89
Hill and Martin, Inc.	D-3S/1W-1F1 Humboldt	Cape Mendocino Humboldt	16	31

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Hinch, Joseph R.	D-5N/1E-31C1 Humboldt	Eureka Plain Humboldt	1	35, 57, 86
Hindley, Joseph N. D. (deceased)	D-3S/1W-1H1 Humboldt	Cape Mendocino Humboldt	16	32, 55, 85
Hornbeck, Holton, et al. Bittencurt, Charles Cox, Claudine D. Cunningham, Helen Fisher, Henry Hornbeck, Robert Proctor, Robert Stewart, Ira B. Taylor, Merrill Walton, L. A.	D-23N/17W-12K1 Mt. Diablo	Lake Benbow Mendocino	29	38, C-11
Hornbeck, Robert	See Hornbeck, Holton, et al.			
Hotchkiss, Roscoe G. and Mabel W.	D-5S/7E-28D1 Humboldt	North Fork Trinity	24	46, 60, C-18
Humboldt, County of	D-5N/1W-26H1 Humboldt	Eureka Plain Humboldt	1	35, 86, C-12, C-13
Hunter, Ray Emmett	D-3S/1W-2E1 Humboldt	Cape Mendocino Humboldt	16	32, 56, 85, C-19
Jacob, Marie S., et al.	See Silva, Joe E.			
Jepsen, Arnold C. and Lillian L. and Sullivan, John D. and Mae	D-4N/1W-16J1 Humboldt	Eureka Plain Humboldt	2	33, 56, 85, C-14
Jessup, George L.	D-21N/15W-11M1 Mt. Diablo	Laytonville Mendocino	34	42, 58, 87, C-16, C-18
Johnson, James	D-3S/4E-6L1 Humboldt	Humboldt Redwoods Humboldt	17	37, 86
Jung, Lotar O.	D-21N/15W-24L1 Mt. Diablo	Laytonville Mendocino	34	42
Kausen, Otto and Kausen, Ronald L.	D-5N/1E-33L1 Humboldt	Eureka Plain Humboldt	1	35, 57, 86, C-10
Kausen, Ronald L.	See Cottage Gardens Company, Inc.			
Kay, Everett G.	D-1S/4E-35J1 Humboldt	Larabee Creek Humboldt	11	41, 58, 87, C-13
Kinsey, Alice H.	D-5S/4E-4A1 Humboldt	Lake Benbow Humboldt	23	40, 58, 87, C-17
Lane, Maurice S. and Erma M.	D-1S/3E-18R1 Humboldt	Sequoia Humboldt	11	47, C-20
Lanes Redwood Flat, Inc. Underwood, R. C. and Ruth B.	D-24N/17W-28E1 Mt. Diablo	Lake Benbow Mendocino	26	38, C-12
Lawrence, Harold	D-2S/2W-24E1 D-2S/2W-24L1 Humboldt	Cape Mendocino Cape Mendocino Humboldt	13 13	31, 55, 85 31, 55, 85

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Ledgerwood Ditch Rumley, Henry M. and Blanche O. Smith, Charles, Estate of	D-3S/6E-3N1 Humboldt	Sequoia Trinity	18	48
Lindroth Timber Products	D-3S/5E-3G1 D-3S/5E-10A1 D-3S/5E-10A2 Humboldt	Sequoia Sequoia Sequoia Humboldt	17 17 17	48 29, 48 29, 48
Lingua, Henry C. and Genevieve	D-22N/12W-5J1 Mt. Diablo	Round Valley Mendocino	32	47, 60, 89, C-14
Littlefield, James	D-2N/1W-2J1 Humboldt	Lower Eel Humboldt	5	44, 88
Loleta Water Works	D-3N/1W-17P1 Humboldt	Lower Eel Humboldt	3	45
Lorensen, Peter F. and Lucille M.	D-4N/1W-16K1 Humboldt	Eureka Plain Humboldt	2	33, 56, 85, C-17
Lowery, William E.	D-1N/2W-21A1 Humboldt	Cape Mendocino Humboldt	7	30, 55, 85
M. and C. Lumber Company	D-5S/2E-22C1 Humboldt	Cape Mendocino Humboldt	23	32, 56
M. and M. Lumber Company	D-3S/5E-34N1 Humboldt	Bell Springs Humboldt	17	30, C-20
Manor, Sam, Sr.	D-21N/15W-15G1 Mt. Diablo	Laytonville Mendocino	34	42, 59, 87
Mansfield-Benbow Corporation	D-4S/3E-35P1 Humboldt	Lake Benbow Humboldt	20	39
Marshall, W. W. and Velma V.	D-4S/3E-24C1 Humboldt	Lake Benbow Humboldt	20	39, 58, 87, C-19
Mast, Ben	D-21N/15W-14N1 D-21N/15W-22C1 D-21N/15W-22G1 Mt. Diablo	Laytonville Laytonville Laytonville Mendocino	34 34 34	42, 58, 87 42, 87, C-23 42, 59, 87
Mazzucchi, Paul and Claire	D-4N/1W-26R1 Humboldt	Eureka Plain Humboldt	2	34, 56, 86, C-15
McClosky, Mrs. Campbell	D-5N/1E-33D1 Humboldt	Eureka Plain Humboldt	1	35, 57, 86
McEwen, Floyd	D-5S/7E-8K1 D-5S/7E-8L1 Humboldt	Bell Springs Bell Springs Trinity	24 24	30, 85 30
McLean, Harry	D-5N/1E-21F1 Humboldt	Eureka Plain Humboldt	1	34, 57, 86
Menke, A. W.	See Berg, Jalmer			

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Miller, Leonard M.	D-5S/7E-17R1 D-5S/7E-20A1 D-5S/7E-21D1 Humboldt	North Fork North Fork North Fork Trinity	24 24 24	46, 60, 88, C-18 46, 60, 88, C-18 46, 60
Miller, Rodney C. and Josephine	See Mulock, Chauncey O.			
Miner, Belle	D-2S/1W-30D1 Humboldt	Cape Mendocino Humboldt	13	31, 55, 85
Miranda Private Water Development	D-3S/3E-3L1 Humboldt	Humboldt Redwoods Humboldt	17	37
Moranda, Walter C.	D-6N/1E-29M1 Humboldt	Eureka Plain Humboldt	1	36, 86, C-15
Morris Dam Pacific Gas and Electric Company	D-18N/13W-33H1 Mt. Diablo	Outlet Creek Mendocino	42	47, 60, C-10
Mozzetti, Silvio and Louise	D-2N/1E-31C1 Humboldt	Lower Eel Humboldt	5	43, 88, C-12
Mulock, Chauncey O.	D-23N/17W-12P1 Mt. Diablo	Lake Benbow Mendocino	29	38
Murray, Ellen B.	D-3S/3E-12P1 Humboldt	Humboldt Redwoods Humboldt	17	37
Myers Water Works	D-2S/3E-30K1 Humboldt	Humboldt Redwoods Humboldt	14	36, C-16
Nehs, Ellen I.	D-23N/16W-17N1 Mt. Diablo	Lake Benbow Mendocino	29	38, C-12, C-14
Neilsen, Chris H.	D-5N/1E-29P1 Humboldt	Eureka Plain Humboldt	1	35, 57, 86, C-13
North Bend Lumber Company	D-4S/2E-24H1 Humboldt	Lake Benbow Humboldt	19	38
Noyes, Edward A. and Josephine C.	D-22N/12W-16A1 Mt. Diablo	Round Valley Mendocino	32	47, 89, C-20
Pacific Conservation Company	D-5N/1W-36L1 Humboldt	Eureka Plain Humboldt	1	35, 86
Pacific Gas and Electric Company	See Morris Dam, Scott Dam, and Van Arsdale Dam			
Pacific Lumber Company, The	D-1N/1E-18B1 Humboldt	Lower Eel Humboldt	8	43, 59, C-11
Paine, L. E.	D-2N/2W-13B1 Humboldt	Lower Eel Humboldt	5	45, 60, 88
Pancoast, Carroll	D-4S/3E-24N1 Humboldt	Lake Benbow Humboldt	20	39, 58, 87
Park Reservoir Arcata, City of	D-6N/1E-28Q1 Humboldt	Eureka Plain Humboldt	1	36, 57, C-12

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Perra, Ferdinand M.	D-1N/1E-22C1 Humboldt	Lower Eel Humboldt	8	43, 59, 86
Phillipsville Water System	D-3S/3E-12J1 Humboldt	Humboldt Redwoods Humboldt	17	37
Port Kenyon Water System	D-2N/2W-10B1 Humboldt	Lower Eel Humboldt	5	44, 59
Proctor, Robert	See Hornbeck, Holton, et al.			
Ramsing, W. T.	See Steinmeyer, Edmund F.			
Rasmussen, Anton	See Elgar, James			
Rasmussen, Elizabeth A. and Smith, Ronald V.	D-2N/2W-5J1 Humboldt	Lower Eel Humboldt	5	44, 59, 88, C-13
Reardon, H. E.	D-4N/1W-9H1 Humboldt	Eureka Plain Humboldt	2	32, 85
Redway Water Company	D-4S/3E-11M1 D-4S/3E-14L1 Humboldt	Lake Benbow Lake Benbow Humboldt	20 20	39, 57 39, 52, 58, C-14
Redwine, Guy	D-23N/15W-26L1 Mt. Diablo	Lake Benbow Mendocino	29	38, 87
Reed, Merrill D. and Leora W.	D-24N/13W-Tr 54N1 Mt. Diablo	North Fork Mendocino	27	39, 45, 60, C-17
Regli, Antone	D-2N/1W-6L1 Humboldt	Lower Eel Humboldt	5	44, 59, 88
Renner, Robert E. and Lois L.	D-2N/1W-27E1 Humboldt	Lower Eel Humboldt	5	44, 59, 88, C-17
Riverside Lumber Company	D-24N/17W-6E1 Mt. Diablo	Lake Benbow Mendocino	26	38, 57
Roberts, Lloyd	D-2S/2W-11G1 Humboldt	Cape Mendocino Humboldt	13	31, 55, 85, C-16
Roff, Waldo W.	D-4S/3E-34J1 Humboldt	Lake Benbow Humboldt	20	39, 87
Roscoe, Wesley C.	D-2S/1W-28P1 D-2S/1W-34E1 Humboldt	Cape Mendocino Cape Mendocino Humboldt	13 13	31, 55, 85 31, 55, 85
Rumley, Henry M. and Blanche O.	See Ledgerwood Ditch			
Satterlee, Guy N.	D-3S/5E-8R1 Humboldt	Sequoia Humboldt	17	48, 61, 89
Schultz, Hal G. and Christine	D-22N/13W-2F1 Mt. Diablo	Round Valley Mendocino	32	47, 60, 89, C-21
Scott Dam Pacific Gas and Electric Company	D-18N/10W-23D1 Mt. Diablo	Lake Pillsbury Lake	43	28, 40, 58, 62, C-10

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Diversion name or owner	Diversion location and Base and Meridian	Subunit and County	References	
			Plate 2 Sheet no	Text and appendixes Page nos.
Seeger, Harold	D-18N/12W-12E1 Mt. Diablo	Willis Ridge Mendocino	42	50, 90
Siemens, Cornelius H.	See Berg, Jalmer			
Silva, Joe E.	D-3N/2W-35R1 Humboldt	Lower Eel Humboldt	3	45, 60, 88, C-13
Smith, Charles, Estate of	See Ledgerwood Ditch			
Smith, Ronald V.	See Rasmussen, Elizabeth A.			
Smith, Warren L.	D-3S/3E-4F1 D-3S/3E-5H1 Humboldt	Humboldt Redwoods Humboldt Redwoods Humboldt	17 17	37, 86, C-16 37, 86, C-16
Snider, Clifton	D-18N/13W-8P1 Mt. Diablo	Outlet Creek Mendocino	42	46, 89
Steinmeyer, Edmund F.	D-19N/12W-8Q1 D-19N/12W-17A1 D-19N/12W-17J1 Mt. Diablo	Willis Ridge Willis Ridge Willis Ridge Mendocino	40 40 40	50, 61, 90, C-15 50, 61, 90, C-15 50, 88, C-15
Stewart, Ira B.	See Hornbeck, Holton, et al.			
Sullivan, John D. and Mae	See Jepsen, Arnold C. and Lillian L.			
Symmes, Day	D-23N/15W-21R1 D-23N/15W-33H1 Mt. Diablo	Lake Benbow Lake Benbow Mendocino	29 29	38, 87 38, 87
Taylor, Merrill	See Hornbeck, Holton, et al.			
Theis, Ernest J.	D-5S/7E-26M1 Humboldt	North Fork Trinity	24	46, 88
Thornton, Hugh K.	D-1S/2E-30E1 Humboldt	Humboldt Redwoods Humboldt	11	36, 57, 86
Timmons, H. C.	D-24N/14W-Tr 67H1 Mt. Diablo	North Fork Mendocino	27	29, 45, 88
Todd, Don and C. W.	See Boyer, John M. and Esther L.			
Todd, Leroy C.	D-1N/1E-5N1 Humboldt	Lower Eel Humboldt	8	43, 59, 88, C-13
Ukiah Pine Lumber Company	D-18N/11W-29P1 Mt. Diablo	Lake Pillsbury Mendocino	43	40, 58
Underwood, R. C. and Ruth B.	See Lanes Redwood Flat, Inc.			
United States Mendocino National Forest	D-22N/9W-26Q1 D-22N/9W-35B1 Mt. Diablo	Black Butte River Black Butte River Glenn	33 33	30, C-18 30, C-18
United States Plywood Corp.	D-5N/1W-24R1 Humboldt	Eureka Plain Humboldt	1	35
Usher, Robert	See Groth, Bruno			

TABLE 8 (Continued)

INDEX TO SURFACE WATER DIVERSIONS IN

EEL RIVER HYDROGRAPHIC UNIT

Diversion name or owner	Diversion location and Base and Meridian	Subunit and County	References	
			Plate 2 Sheet no.	Text and appendixes Page nos.
Valsecchi, Ugo	D-2N/2W-1N1 Humboldt	Lower Eel Humboldt	5	44, 59, 88, C-17
Van Arsdale Dam Pacific Gas and Electric Company	D-18N/11W-30H1 Mt. Diablo	Lake Pillsbury Mendocino	43	41, 58, 62, C-11
Wagner, Ed H.	D-4S/3E-33N1 Humboldt	Lake Benbow Humboldt	20	39, 87
Walter, H. E.	See Berg, Jalmer			
Walton, L. A.	See Hornbeck, Holton, et al.			
Ward, David S.	See Cottage Gardens, Inc.			
Warlick, S. M.	See Elgar, James			
Weott Water Works	D-2S/2E-3J1 D-2S/2E-3R1 Humboldt	Humboldt Redwoods Humboldt Redwoods Humboldt	14 14	36 36
Willits Ready Mix Company	D-18N/13W-17P1 Mt. Diablo	Outlet Creek Mendocino	42	46, 60
Witter, Dean	D-4S/6E-7Q1 D-4S/7E-19G1 D-5S/7E-29P1 Humboldt	Bell Springs Bell Springs Bell Springs Trinity	21 21 24	30, 85 30, 55, 85, C-16 30, 55, 85
Wood, E. D.	D-4S/3E-2K1 Humboldt	Lake Benbow Humboldt	20	39, 57, 87
Woodruff, Warren S. and Lorraine R.	D-22N/15W-26P1 D-22N/15W-26P2 Mt. Diablo	Laytonville Laytonville Mendocino	31 31	43, 59 43
Wright, Rae	D-3S/3E-5P1 Humboldt	Humboldt Redwoods Humboldt	17	37, 57, 86
Wrigley, E. Phillip	D-4N/1W-15C1 Humboldt	Eureka Plain Humboldt	2	33, 85, C-21
Zane, Simeon L.	D-4N/1W-22F1 Humboldt	Eureka Plain Humboldt	2	33, 86, C-15
Zanone, Joseph E.	D-1N/3W-14F1 Humboldt	Cape Mendocino Humboldt	7	30, 85

CHAPTER III. LAND USE

This chapter presents a discussion of the procedures and the tabulated results of a survey of land use conducted in the Eel River Hydrographic Unit in 1958 and 1959. These results, as well as the water use data presented in Chapter II, are essential to the determination of future water requirements of the unit. A brief account of historical land use in the unit is presented to supplement the survey data.

Historical Land Use

As previously mentioned in Chapter I, development of the Eel River Hydrographic Unit began as a result of exploration in search of shorter routes to the Trintiy River gold fields. Not until 1850 did developments of significant consequence begin. Initially these were in the Humboldt Bay area, among them the towns of Eureka and Arcata, which have grown and are today the center of activities in the northern portion of the unit. The community of Willits, founded in 1865, likewise became the nucleus of activities in the southern portion of the unit.

During the 1860's and 70's the lumber industries were developing at a moderate pace. Population rose to some 13,500 persons, 80 percent of whom were within Humboldt County. By 1900, with more sawmills operating, the population had continued to increase to approximately 24,000 persons. Further growth in the forest products industry throughout the 1900's was accelerated by the construction of the Northwestern Pacific Railroad. It is readily seen that urban and industrial growth has been very closely related to the development of the great forest products industry of the unit.

In addition to the major towns mentioned above, there are numerous other towns in the unit. Covelo, Ferndale, Fortuna, Garberville, Laytonville, Loleta, Rohnerville, Rio Del, and Scotia are some of the more notable of these.

Historically, agriculture has been a significant activity since the late 1850's. The remoteness of this region from sources of supply and from markets has largely determined the nature of its agriculture. Meeting the local demand for food--principally meat, dairy products, potatoes, etc.--as well as feed for livestock, set the pattern of agriculture for some 70 years. After 1900, dairying and beef raising were well established as the primary farm activities. Small acreages of hay, grain, and truck crops are grown. Most of the production of these crops is used as supplemental cattle feed. Field and miscellaneous crops showed a continuous decline for the period 1944-54. The decline of these crops is coincident with an increase in the acreage of irrigated pasture. At present approximately 90 percent of the agricultural lands are devoted to integrated pasture-dairy cattle operations.

Of approximately $11 million of agricultural gross sales in 1954, 70 percent was from dairy products, 19 percent from range livestock, 6 percent from farm forest products, 4 percent from poultry and 1 percent from miscellaneous products.

Recreational land use development of the area was not rapid in the early years. At present, however, there are five redwood state parks in the western portion of the unit which were visited by nearly two and a half million persons in 1961. The two national forests in the eastern portion of the unit constitute another area for public recreation. Improved facilities are very limited in this area and most of its use is for camping, hunting, and fishing.

Present Land Use

According to the land use survey made for this report, the majority of the developed lands within the unit are used for agricultural purposes, while the remaining developed acreage is utilized for urban and recreational purposes. Lands which are in an essentially undeveloped condition and receive no applied water, even though they encompass large unimproved forest recreational areas, or supply valuable timber and forage, are not segregated for the purpose of this report.

A detailed description of the survey is presented in the following paragraphs. The land uses mapped in this survey fall into four major categories: irrigated lands, dry-farmed lands, urban lands, and recreational lands; and one minor category: consistently high water table lands, such as meadowlands and marshes. Lands not included in any of these five categories were mapped as "native vegetation." The location and extent of the lands in each of these categories are delineated on Sheets 1 through 45 of Plate 2. The acreages of the various land uses within each subunit are presented in Table 9. The values represent gross acreages, and include those nonwater-service areas such as roads, ditches, farm building and storage areas, and miscellaneous rights-of-way, which were too small to be separately delineated.

Methods and Procedures

The location of surface water diversions and the land use survey were accomplished by relating field observations to aerial photographs having a scale of about 1:20,000. The use of stereoscopes was of great assistance in this work. As each surface water diversion was located, it was plotted on the aerial photograph. Following this, the

Illustration 9. Native rangeland near Cape Mendocino

Illustration 10.
Typical irrigate
pasture near
the Coast

use and extent of each parcel of land were determined, and delineations and annotations made accordingly on the photographs. The hydrographic unit was traversed by automobile as completely as roads and terrain permitted. Where necessary, because of poor accessibility, inspections were made on foot.

A system of annotations designed to indicate both the broad types of land use mentioned in the previous section, and subclassifications denoting specific uses, was employed. Agricultural lands were surveyed to determine whether or not parcels were irrigated and what crops were raised. This information was then annotated on the photographs. The crops observed were identified by general crop groups as well as the specific crops present.

After completion of the field mapping, the data delineated on the photographs were transferred to copies of U. S. Geological Survey quadrangle maps reproduced at a scale of 1:24,000. This procedure was necessary to bring the delineated areas to a common scale for accurate determination of acreages, since the scale of the aerial photographs utilized varied widely. A series of these maps showing the location of all diversions, and the fields associated with each irrigation diversion, was colored according to the land use categories and was reviewed by local parties concerned. These maps were then used in the preparation of Plate 2.

Another series of these maps was used in computing the acreages of the land uses. Each delineated area on these maps was manually cut out and was carefully weighed on an analytical balance. These weights were converted to acreages, using ratios determined for the individual maps. This method has proven to be a very expedient and accurate means of area determination where many small parcels are involved.

The general groups of crops and the specific crops comprising each group are listed below: (Crops mapped in this survey are underscored.)

G - Grain and hay crops

Wheat, barley, oats, miscellaneous.

F - Field crops

Cotton, safflower, flax, hops, sugar beets, corn (field or sweet), grain sorghums, castor beans, miscellaneous.

P - Pasture

Alfalfa, clover, mixed, native, induced high water table native, sudan.

T - Truck

Artichokes, asparagus, beans (green or dry), cole crops, carrots, celery, lettuce, melons, squash, cucumbers, onions, garlic, peas, potatoes, sweet potatoes, spinach, tomatoes, flowers, nursery, bushberries, strawberries, peppers, etc.

D - Deciduous fruits and nuts

Apples, apricots, cherries, peaches, nectarines, pears, plums, prunes, figs, almonds, walnuts, miscellaneous.

An example of an aerial photograph with land use data delineated on it is shown in Illustration 11 on Page 81.

Irrigated Lands

Irrigated lands, as designated in this report, include all agricultural lands which receive water artificially. As these lands were noted in the field survey they were identified as such by the symbol "i" as in the sample photograph. The fields of various crops and of "idle" land were identified with specific water sources and the acreages determined accordingly. Idle irrigated lands are defined as lands which were not irrigated in the year of the survey, but had irrigation facilities and had been irrigated within the preceding three years. Fallow irrigated

Illustration 11. Example of land use delineated on aerial photograph

Symbols used on this photograph

AGRICULTURAL LANDS

Irrigated Lands

iP1 - alfalfa
iP3 - mixed pasture
iF11 - miscellaneous field crops

Dry-farmed Lands

nP1 - alfalfa
nP3 - mixed pasture
nD1 - apples
nF6 - corn
nG3 - oats
nI1 - not tilled at time of survey

URBAN LANDS

UR - residential
UV4 - vacant paved
UC1 - miscellaneous commercial
UC61 - school. one story
U16 - sawmill

MISCELLANEOUS LANDS

RC - recreational commercial
S3 - dairies
NV - native vegetation

TABLE 9

LAND USE IN

EEL RIVER HYDROGRAPHIC UNIT

1958[μ] (In acres)

Subunit and County	Irrigated lands	Naturally high water table lands		Dry-farmed lands	Urban lands	Recreational lands			
		Meadowlands	Marsh			Residential	Commercial	Camp sites	Parks
Bell Springs									
Humboldt	2	13	0	49	105	0	0	0	0
Mendocino	0	6	0	67	75	0	0	0	0
Trinity	62	55	7	123	7	5	0	0	0
Subunit Total	64	74	7	239	187	5	0	0	0
Black Butte River									
Glenn	0	49	0	0	0	15	0	39	0
Mendocino	0	2	0	0	0	0	0	0	0
Subunit Total	0	51	0	0	0	15	0	39	0
Cape Mendocino									
Humboldt	505	26	0	654	385	6	1	5	0
Mendocino	11	3	0	0	0	0	0	0	0
Subunit Total	516	29	0	654	385	6	1	5	0
Etsel									
Lake	0	0	0	0	0	0	0	0	0
Mendocino	0	78	13	21	4	0	0	0	0
Subunit Total	0	78	13	21	4	0	0	0	0
Eureka Plain									
Humboldt	2,775	3,023	66	10,093	9,964[a]	32	0	5	115
Humboldt Redwoods									
Humboldt	102	2	0	128	810	51	7	1	23,112
Lake Benbow									
Humboldt	165	3	0	58	681	118	23	30	1,526
Mendocino	17	35	0	54	461	0	116	0	627
Subunit Total	182	38	0	112	1,142	118	139	30	2,153
Lake Pillsbury									
Glenn	0	0	0	0	0	0	0	0	0
Lake	8	53	0	0	70	156	23	58	0
Mendocino	0	0	0	0	79	0	0	0	0
Subunit Total	8	53	0	0	149	156	23	58	0
Larabee Creek									
Humboldt	45	4	9	106	20	3	0	6	0
Laytonville									
Mendocino	284	101	0	815	910	0	0	8	61
Lower Eel									
Humboldt	11,299	954	0	18,225	3,529[b]	0	12	1	1,284
North Fork									
Mendocino	7	19	14	155	0	0	0	0	0
Trinity	31	50	9	149	9	8	4	0	0
Subunit Total	38	69	23	304	9	8	4	0	0
Outlet Creek									
Mendocino	371	1,428	0	3,221	2,032[c]	0	10	7	31
Round Valley									
Mendocino	634	298	0	6,477	577[d]	0	0	1	0
Sequoia									
Humboldt	147	7	0	183	450	87	0	0	343
Trinity	38	3	3	29	10	14	3	4	0
Subunit Total	185	10	3	212	460	101	3	4	343
Van Duzen River									
Humboldt	1,070	137	13	1,264	451	185	15	8	172
Trinity	0	0	0	230	25	46	0	4	0
Subunit Total	1,070	137	13	1,494	476	231	15	12	172
Wilderness									
Mendocino	0	6	26	0	0	0	0	3	0
Trinity	0	3	0	13	0	2	0	0	0
Subunit Total	0	9	26	13	0	2	0	3	0

μ Cape Mendocino Subunit only, land use in 1959.
For lettered footnotes, see last page of table.

TABLE 9 (Continued)

LAND USE IN

EEL RIVER HYDROGRAPHIC UNIT

1958 (In acres)

Subunit and County	Irrigated lands	Naturally high water table lands		Dry-farmed lands	Urban lands	Recreational lands			
		Meadowlands	Marsh			Residential	Commercial	Camp sites	Parks
Willis Ridge									
Lake	0	0	0	0	0	0	0	0	0
Mendocino	153	16	6	292	78	0	10	0	0
Subunit Total	153	16	6	292	78	0	10	0	0
Yager Creek									
Humboldt	0	27	0	368	15	0	0	0	0
County Totals									
Glenn	0	49	0	0	0	15	0	39	0
Humboldt	16,110	4,196	88	31,128	16,410[e]	482	58	56	26,552
Lake	8	53	0	0	70	156	23	58	0
Mendocino	1,477	1,992	59	11,102	4,216[f]	0	136	19	719
Trinity	131	111	19	544	51	75	7	8	0
Hydrographic Unit Total	17,726	6,401	166	42,774	20,747[g]	728	224	180	27,271

a - Includes 2 acres of cemetery not shown as Urban on Plate 2
b - Includes 16 acres of cemetery not shown as Urban on Plate 2
c - Includes 18 acres of cemetery not shown as Urban on Plate 2
d - Includes 4 acres of cemetery not shown as Urban on Plate 2
e - Includes 18 acres of cemetery not shown as Urban on Plate 2
f - Includes 22 acres of cemetery not shown as Urban on Plate 2
g - Includes 40 acres of cemetery not shown as Urban on Plate 2

lands are those cultivated lands which have facilities for irrigation and may be irrigated during the year of survey, but at the actual date of survey were only tilled and not planted to a crop.

This survey revealed 17,742 acres of irrigated lands in the Eel River Hydrographic Unit. Of this total, 96 percent were in pasture-type crops, 1 percent were in truck crops, 1 percent in miscellaneous crops, and the remaining 2 percent were idle or fallow.

Acreages of irrigated lands within the various subunits are reported in Table 10 by surface diversion. For each irrigation diversion, the acreage of each crop group and, where applicable, the acreage previously irrigated but not cropped in the year of survey, are tabulated. Any of these lands which received a supplementary supply from ground water are indicated. The acreages to which ground water only was applied are also listed.

On Plate 2 irrigated lands are grouped in just three categories: (1) those which were cropped and to which water was actually applied during the year of survey; (2) those lands which received only a partial supply of water; and (3) those which were idle or fallow. The use of ground water is indicated by cross-hatching.

Naturally High Water Table Lands

In addition to the lands which receive applied water as described above, there are lands supporting vegetation which utilize water from a naturally high water table, such as mountain meadows or certain lands adjacent to lakes and streams. These lands are divided into two groups: "meadowlands" where the water table is normally below the surface and "marsh" which is under water much of the year. These two groups are designated "naturally irrigated meadowlands" and "marsh or swamp" on Plate 2.

TABLE 10

IRRIGATED LANDS IN EEL RIVER HYDROGRAPHIC UNIT

1958[u] (in acres)

Diversion or other source serving irrigated lands		Alfalfa or Clover	Pasture		Field crops	Grain	Truck crops		Deciduous orchard	Total lands irrigated	Irrigated idle or fallow	Total
Diversion location	Diversion owner		Mixed	Native			Nursery	Other				
H B & M					Bell Springs Subunit							
D-4S/6E-7Q1	Dean Witter		2							2		2
D-4S/7E-19Q1	Dean Witter		33							33		33
D-5S/7E-8K1	Floyd McEwen		4							4		4
D-5S/7E-29P1	Dean Witter	—	25	—	—	—	—	—	—	25	—	25
Totals:	Surface Water Supply	0	64	0	0	0	0	0	0	64	0	64
	Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
	Subunit	0	64	0	0	0	0	0	0	64	0	64
	Humboldt County	0	2	0	0	0	0	0	0	2	0	2
	Trinity County	0	62	0	0	0	0	0	0	62	0	62
					Black Butte River Subunit							
					(No irrigated lands)							
H B & M					Cape Mendocino Subunit							
D-1N/2W-21A1	William E. Lowery		12							12		12
D-1N/3W-14F1	Joseph E. Zanone	6								6		6
D-2R/3W-13H1	Henry C. and Aida M. Barri		14							14		14
D-1S/2W-29R1	Joseph R. Cook		57							57		57
D-1S/2W-33J1	Joseph R. Cook		22							22		22
D-2S/1W-28P1	Wesley C. Roscoe		21							21		21
D-2S/1W-30C1	Louis P. Adams		28							28		28
D-2S/1W-30D1	Belle Miner		7							7		7
D-2S/1W-34E1	Wesley C. Roscoe		26			9				35		35
D-2S/2W-10C1	John L. Chambers		90							90		90
D-2S/2W-11G1	Lloyd Roberts	17	26							43		43
D-2S/2W-24E1 D-2S/2W-24L1	Harold Lawrence		48							48		48
D-3S/1W-1H1	Joseph R. D. Hindley (deceased)	25								25		25
D-3S/1W-2E1	Ray Emmett Hunter		18						26	44		44
D-4S/2E-6P1	Lee French		7							7		7
D-5S/2E-9E1	Robert Crerar			34[a]						34[a]		34[a]
D-5S/2E-22P1	Bruno Orotb and Robert Usher	—	11[a]	—	—	—	—	—	—	11[a]	—	11[a]
Totals:	Surface Water Supply	48	387	34	0	9	0	0	26	504	0	504
	Ground Water Supply	0	12	0	0	0	0	0	0	12	0	12
	Subunit	48	399	34	0	9	0	0	26	516	0	516
	Humboldt County	48	388	34	0	9	0	0	26	505	0	505
	Mendocino County	0	11	0	0	0	0	0	0	11	0	11
					Etsel Subunit							
					(No irrigated lands)							
H B & M					Eureka Plain Subunit							
D-3N/1W-9E1	D. Bassey		25							25		25
D-4N/1W-9H1	H. E. Reardon		25		7					32		32
D-4N/1W-9J1	Wendell O. Clausen		10							10		10
D-4N/1W-15C1	E. Philip Wrigley		6							6		6
D-4N/1W-15D1	Sedge Brazil		12							12		12
D-4N/1W-15N1	Charlie Berta		9							9		9
D-4N/1W-16J1	Arnold C. Jepsen, et al.		37							37		37
D-4N/1W-16K1	Peter F. and Lucille M. Lorensen		79							79		79

u Cape Mendocino Subunit only, lands irrigated in 1959.
For lettered footnotes, see last page of table.

TABLE 10 (Continued)

IRRIGATED LANDS IN EEL RIVER HYDROGRAPHIC UNIT

1958 (in acres)

Diversion or other source serving irrigated lands		Alfalfa or Clover	Pasture		Field crops	Grain	Truck crops		Deciduous orchard	Total lands irrigated	Irrigated idle or fallow	Total
Diversion location	Diversion owner		Mixed	Native			Nursery	Other				
H B & M					Eureka Plain Subunit (Continued)							
D-4N/1W-16R1	Natale Dellabalma		25							25		25
D-4N/1W-21A1	Natale Dellabalma		43							43		43
D-4N/1W-22F1	Simeon L. Zane										132	132
D-4N/1W-22M1	Manuel B. Estevo		18							18		18
D-4N/1W-22N1	Manuel B. Estevo		22							22		22
D-4N/1W-26K1	Math Camathias		8							8		8
D-4N/1W-26R1	Paul Mazzucchi		21		4	5				30		30
D-4N/1W-27A1	Elk River Mill and Lumber Company		36			6				42		42
D-4N/1W-28M1	T. F. Bartlett		38							38		38
D-5N/1E-4Q1	Arthur Ford		54							54		54
D-5N/1E-10G1	James Elgar		41							41		41
D-5N/1E-10H1	Homer A. Fisher		50							50		50
D-5N/1E-21F1	Harry McLean		9							9		9
D-5N/1E-21M1	Nelson C. Bowles										52[b]	52[b]
D-5N/1E-29P1	Chris H. Nielsen		69							69		69
D-5N/1E-31C1	Joseph R. Hinch		10		4					14		14
D-3N/1E-33D1	Mrs. Campbell McCloskey		149							149		149
D-5N/1E-33L1	Otto Kausen		27				4	2		33		33
D-5N/1E-33Q1	Louis Conti							8		8		8
D-5N/1W-25M1	Cottage Gardens Co., Inc.						26			26		26
D-5N/1W-26H1	Humboldt County										8	8
D-5N/1W-36L1	Pacific Conservation Company		4							4	19	23
D-6N/1E-29M1	Walter C. Moranda		54							54		54
D-5N/1E-32M1	Jalmer Berg, et al.		69							69		69
Import water from the Mad River-Redwood Creek Hydrographic Unit		—	30	—	—	—	—	—	—	30	6	36
Totals:	Surface Water Supply	0	980	0	15	11	30	10	0	1,046	217	1,263
	Ground Water Supply	0	1,454	0	19	11	0	7	0	1,491	21	1,512
	Subunit	0	2,434	0	34	22	30	17	0	2,537	238	2,775
	Humboldt County	0	2,434	0	34	22	30	17	0	2,537	238	2,775
H B & M					Humboldt Redwoods Subunit							
0-1S/2E-30E1	Hugh K. Thornton			12						12		12
D-2S/3E-34N1	C. K. Bowman	8	23							31	4	35
D-3S/3E-4F1	Warren L. Smith								10	10	9	19
D-3S/3E-5H1	Warren L. Smith								5	5		5
D-3S/3E-5P1	Rae Wright		5							5		5
D-3S/3E-8C1	Charles Berry and Russell Fleet		3							3		3
D-3S/3E-8D1	Marjorie R. Berry		3		3					6		6
D-3S/4E-6L1	James Johnson	—	8	—	—	—	—	—	—	8	—	8
Totals:	Surface Water Supply	8	42	12	3	0	0	0	15	80	13	93
	Ground Water Supply	0	0	0	3	0	0	5	1	9	0	9
	Subunit	8	42	12	6	0	0	5	16	89	13	102
	Humboldt County	8	42	12	6	0	0	5	16	89	13	102

For lettered footnotes, see last page of table.

TABLE 10 (Continued)

IRRIGATED LANDS IN EEL RIVER HYDROGRAPHIC UNIT

1958 (in acres)

Diversion or other source serving irrigated lands		Alfalfa or Clover	Pasture		Field crops	Grain	Truck crops		Deciduous orchard	Total lands irrigated	Irrigated idle or fallow	Total
Diversion location	Diversion owner		Mixed	Native			Nursery	Other				
M D B & M					Lake Benbow Subunit							
D-23N/15W-21R1	Day Symmes			5						5		5
D-23N/15W-26L1	Guy Redwine			2						2		2
D-23N/15W-33H1	Day Symmes		3							3		3
R B & M												
D-4S/3E-2K1	E. D. Wood		64							64		64
D-4S/3E-24C1	W. W. and Velma V. Marshall		33							33		33
D-4S/3E-24N1	Carroll Pancoast		10							10		10
D-4S/3E-33N1	Ed H. Wagner		8							8		8
D-4S/3E-34J1	Waldo W. Roff		3							3		3
D-5S/3E-24Q1	Lloyd F. Cook		7							7		7
D-5S/4E-4A1	Alice E. Kinsey	—	47	—	—	—	—	—	—	47	—	47
Totals:	Surface Water Supply	0	175	7	0	0	0	0	0	182	0	182
	Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
	Subunit	0	175	7	0	0	0	0	0	182	0	182
	Humboldt County	0	165	0	0	0	0	0	0	165	0	165
	Mendocino County	0	10	7	0	0	0	0	0	17	0	17
M D B & M					Lake Pillsbury Subunit							
D-19N/10W-30H1	Margaret Fuller Brown	—	8	—	—	—	—	—	—	8	—	8
Totals:	Surface Water Supply	0	8	0	0	0	0	0	0	8	0	8
	Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
	Subunit	0	8	0	0	0	0	0	0	8	0	8
	Lake County	0	8	0	0	0	0	0	0	8	0	8
H B & M					Larabee Creek Subunit							
D-1S/4E-4P1	Mary Fitzell		10							10		10
D-1S/4E-35J1	Everett O. Kay		21							21		21
D-2S/5E-7Q1	Fred Fearrien	—	14	—	—	—	—	—	—	14	—	14
Totals:	Surface Water Supply	0	45	0	0	0	0	0	0	45	0	45
	Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
	Subunit	0	45	0	0	0	0	0	0	45	0	45
	Humboldt County	0	45	0	0	0	0	0	0	45	0	45
M D B & M					Laytonville Subunit							
D-21N/15W-3N1	George S. Daniels		14							14		14
D-21N/15W-3P1	George S. Daniels		18							18		18
D-21N/15W-3Q1	George S. Daniels		8							8		8
D-21N/15W-11M1	George L. Jessup		14							14		14
D-21N/15W-13C1	Willard L. Frier	5								5		5
D-21N/15W-13F1	Willard L. Frier		14							14		14
D-21N/15W-15Q1	Sam Manor, Sr.			18						18		18
D-21N/15W-14N1 D-21N/15W-22C1	Ben Mast		44							44		44
D-21N/15W-22C1 D-21N/15W-22G1	Ben Mast		17							17		17
D-22N/15W-22E1	Leonard Berchtold		27							27		27

For lettered footnotes, see last page of table.

TABLE 10 (Continued)

IRRIGATED LANDS IN EEL RIVER HYDROGRAPHIC UNIT

1958 (in acres)

Diversion or other source serving irrigated lands		Alfalfa or Clover	Pasture		Field crops	Grain	Truck crops		Deciduous orchard	Total lands irrigated	Irrigated idle or fallow	Total
Diversion location	Diversion owner		Mixed	Native			Nursery	Other				
Loytonville Subunit (Continued)												
M D B & M												
D-22N/15W-23M1	John Hargus	—	9	—	—	—	—	—	—	9	—	9
Totals:	Surface Water Supply	5	165	18	0	0	0	0	0	188	0	188
	Ground Water Supply	0	2	0	0	0	0	0	0	2	94	96
	Subunit	5	167	18	0	0	0	0	0	190	94	284
	Mendocino County	5	167	18	0	0	0	0	0	190	94	284
Lower Eel Subunit												
B B & M												
D-1N/1E-5N1	Leroy C. Todd		43							43		43
D-1N/1E-22C1	Ferdinand M. Perra		64[b]							64[b]		64[b]
D-1N/2E-33N1	Frank E. and Olieva L. Casey		35							35		35
D-2N/1E-31C1	Silvio and Louis Mozzetti		40							40		40
D-2N/1E-31L1	George W. Evans		22							22		22
D-2N/1W-2J1	James Littlefield										14	14
D-2N/1W-6E1	Pauline Flynn		63							63		63
D-2N/1W-6L1	Antone Regli		31							31		31
D-2N/1W-27E1	Robert E. and Lois L. Renner		80							80		80
D-2N/1W-35J1	Anna Biasca		35							35		35
D-2N/1W-36M1	Fred Bravo	25	11							36		36
D-2N/2W-1N1	Ugo Valsecchi		11							11		11
D-2N/2W-5J1	Elizabeth A. Rasmussen and Ronald V. Smith		21					7		28		28
D-2N/2W-13B1	L. E. Paine		24							24		24
D-3N/1W-18P1	Joe M. Genzoli		67[b]							67[b]		67[b]
D-3N/2W-12K1	Walter Bognuda		58							58		58
D-3N/2W-35R1	Joe E. Silva	—	47	—	—	—	—	—	—	47	—	47
Totals:	Surface Water Supply	25	652	0	0	0	0	7	0	698	14	712
	Ground Water Supply	290	10,193	0	49	37	0	27	0	10,596	5	10,601
	Subunit	315	10,845	0	49	37	0	34	0	11,280	19	11,299
	Humboldt County	315	10,845	0	49	37	0	34	0	11,280	19	11,299
North Fork Subunit												
M D B & M												
D-24N/14W-Tr 67R1	B. C. Timmons		7							7		7
H B & M												
D-4S/7E-16L1	Merlin Goodwin		14							14	3	17
D-5S/7E-17R1	Leonard M. Miller			4						4		4
D-5S/7E-20A1	Leonard M. Miller		6							6		6
D-5S/7E-26M1	Ernest J. Theis	—	4	—	—	—	—	—	—	4	—	4
Totals:	Surface Water Supply	0	31	4	0	0	0	0	0	35	3	38
	Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
	Subunit	0	31	4	0	0	0	0	0	35	3	38
	Mendocino County	0	7	0	0	0	0	0	0	7	0	7
	Trinity County	0	24	4	0	0	0	0	0	28	3	31

For lettered footnotes, see last page of table.

TABLE 10 (Continued)

IRRIGATED LANDS IN EEL RIVER HYDROGRAPHIC UNIT

1958 (in acres)

Diversion or other source serving irrigated lands		Alfalfa or Clover	Pasture		Field crops	Grain	Truck crops		Deciduous orchard	Total lands irrigated	Irrigated idle or fallow	Total
Diversion location	Diversion owner		Mixed	Native			Nursery	Other				
M D B & M					Outlet Creek Subunit							
D-18N/13W-8P1	Clifton Snider										13	13
D-18N/13W-9J1	Ray T. Haag		9							9		9
D-18N/13W-19H1 D-18N/13W-19G1	Phillip Colli		54							54		54
D-18N/13W-33A1	Earl W. Elwinger		9							9		9
D-18N/14W-12D1	Edward C. Asher										47	47
D-19N/14W-8R1	Edgar Freeman	—	86[a]	—	—	—	—	—	—	86[a]	—	86[a]
Totals:	Surface Water Supply	0	158	0	0	0	0	0	0	158	60	218
	Ground Water Supply	0	153	0	0	0	0	0	0	153	0	153
	Subunit	0	311	0	0	0	0	0	0	311	60	371
	Mendocino County	0	311	0	0	0	0	0	0	311	60	371
M D B & M					Round Valley Subunit							
D-22N/12W-5J1	Henry C. and Genevieve Lingua								27	27		27
D-22N/12W-16A1	Edward A. and Josephine C. Noyes		50							50		50
D-22N/13W-2F1	Hal G. and Christine Schultz	—	59	—	—	—	—	—	—	59	—	59
Totals:	Surface Water Supply	0	109	0	0	0	0	0	27	136	0	136
	Ground Water Supply	0	452	0	0	0	0	0	0	452	46	498
	Subunit	0	561	0	0	0	0	0	27	588	46	634
	Mendocino County	0	561	0	0	0	0	0	27	588	46	634
H B & M					Sequoia Subunit							
D-3S/5E-5F1	William Gasser		1		3					4		4
D-3S/5E-8R1	Guy N. Satterlee		89							89		89
D-3S/6E-10K1	Harold C. and Bernice R. Ford		6							6		6
D-3S/6E-22A1	Howard and Zelma Benninghoven		9							9		9
D-3S/6E-23N1	Ralph Burgess		11						1	12		12
D-3S/6E-27C1	Andrew Burgess			3						3		3
D-3S/6E-27C2	Andrew Burgess	—	—	8	—	—	—	—	—	8	—	8
Totals:	Surface Water Supply	0	116	11	3	0	0	0	1	131	0	131
	Ground Water Supply	23	6	21	0	0	0	4	0	54	0	54
	Subunit	23	122	32	3	0	0	4	1	185	0	185
	Humboldt County	23	96	21	3	0	0	4	0	147	0	147
	Trinity County	0	26	11	0	0	0	0	1	38	0	38
H H & M					Van Duzen River Subunit							
D-2N/1E-28B1	T. A. Carlson		6							6		6
D-2N/1E-35H1	George H. Corbett		14							14		14
D-2N/1E-36M1	George H. Corbett		31							31		31
D-2N/4E-27Q1	N. E. and Violet Ackley	13								13		13
D-1S/5E-9R1	Jettie H. Hill	4	—	—	—	—	—	—	—	4	—	4
Totals:	Surface Water Supply	17	51	0	0	0	0	0	0	68	0	68
	Ground Water Supply	0	997	0	5	0	0	0	0	1,002	0	1,002
	Subunit	17	1,048	0	5	0	0	0	0	1,070	0	1,070
	Humboldt County	17	1,048	0	5	0	0	0	0	1,070	0	1,070

For lettered footnotes, see last page of table.

TABLE 10 (Continued)

IRRIGATED LANDS IN EEL RIVER HYDROGRAPHIC UNIT

1958 (in acres)

Diversion or other source serving irrigated lands Diversion location — Diversion owner	Alfalfa or Clover	Pasture: Mixed	Pasture: Native	Field crops	Grain	Truck crops: Nursery	Truck crops: Other	Deciduous orchard	Total lands irrigated	Irrigated idle or fallow	Total
Wilderness Subunit											
(No irrigated lands)											
Willis Ridge Subunit											
M D B & M											
D-18N/11W-7F1 Don and C. W. Todd		49							49		49
D-18N/11W-7M1 Don and C. W. Todd		12							12		12
D-18N/12W-7D1 Bargsten Brothers		8							8		8
D-18N/12W-12E1 Harold Seeger		3							3		3
D-19N/12W-8Q1 Edmund F. Steinmeyer		4							4		4
D-19N/12W-17A1 Edmund F. Steinmeyer		34							34		34
D-19N/12W-17J1 Edmund F. Steinmeyer										5	5
D-19N/12W-21A1 Clive Adams	—	38	—	—	—	—	—	—	38	—	38
Totals: Surface Water Supply	0	148	0	0	0	0	0	0	148	5	153
Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
Subunit	0	148	0	0	0	0	0	0	148	5	153
Mendocino County	0	148	0	0	0	0	0	0	148	5	153
Yager Creek Subunit											
(No irrigated lands)											
SUMMARY											
Glenn County	--	---	--(No irrigated lands)			--	--	--	---	--	---
Humboldt County											
Surface Water Supply	98	2,403	46	21	20	30	17	41	2,676	244	2,920
Ground Water Supply	313	12,662	21	76	48	0	43	1	13,164	26	13,190
Total	411	15,065	67	97	68	30	60	42	15,840	270	16,110
Lake County											
Surface Water Supply	0	8	0	0	0	0	0	0	8	0	8
Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
Total	0	8	0	0	0	0	0	0	8	0	8
Mendocino County											
Surface Water Supply	5	608	25	0	0	0	0	27	665	65	730
Ground Water Supply	0	607	0	0	0	0	0	0	607	140	747
Total	5	1,215	25	0	0	0	0	27	1,272	205	1,477
Trinity County											
Surface Water Supply	0	112	15	0	0	0	0	1	128	3	131
Ground Water Supply	0	0	0	0	0	0	0	0	0	0	0
Total	0	112	15	0	0	0	0	1	128	3	131
Eel River Hydrographic Unit											
Surface Water Supply	103	3,131	86	21	20	30	17	69	3,477	312	3,789
Ground Water Supply	313	13,269	21	76	48	0	43	1	13,771	166	13,937
Total	416	16,400	107	97	68	30	60	70	17,248	478	17,726

a - Received partial irrigation.
b - Received supplemental supply from ground water.

Dry-farmed Lands

Dry-farmed lands are those lands normally in crop but which do not receive applied water. This includes all lands so farmed whether or not a crop is produced in the year of survey. Dry-farmed lands are called "idle" if entirely uncultivated in the year of survey, and "fallow" if tilled but without a crop. Lands which had been idle for more than three years and appeared to have reverted to native vegetation were so mapped.

It should be noted that the term dry-farmed as used herein refers to the farming practice on these lands and not to a lack of soil moisture.

Since non-cultivated range lands are usually indistinguishable from other lands with native cover not used for grazing purposes, no attempt was made to segregate them. Both types are included in native vegetation. Water use in both cases is essentially the same and is dependent upon precipitation.

Urban Lands

Urban lands include the total areas of cities, towns, small communities, and industrial plots which are large enough to be delineated. Also included are parks, golf courses, racetracks, and cemeteries within or near urban areas. The reported acreages of urban land use represent gross delineations, including streets and vacant lots, and are therefore not necessarily fully developed at the present time. In this survey the boundaries of urban communities were delineated to include all lands with a density of one house or more per two acres.

Recreational Lands

Recreational lands were mapped on aerial photographs in the field in four categories: (1) residential, (2) commercial, (3) camp and

Illustration 12.

Entrance to

Richardson Grove

State Park

Illustration 1

Recreational

residential ar

at Redway

trailer sites, and (4) parks. Recreational "residential" lands include permanent and summer home tracts within primarily recreational areas. The estimated density of homes per acre was also indicated in the course of the survey. Recreational "commercial" lands include those containing motels, resorts, hotels, stores, restaurants and similar commercial establishments in primarily recreational areas. Lands mapped in the "camp and trailer sites" category include those areas so used within primarily recreational areas but outside the boundaries of public parks. The entire area within the boundaries of parks was included in the "parks" category without regard to the extent of development thereon. Obviously, nearly all of the mountainous, seashore, and water surface areas are suitable for some use such as hunting, fishing, hiking, picnicking and other recreational activities of this nature. For the purpose of this land use survey, however, except for parks, consideration was given only to those lands where some fairly intensive development requiring water service was located.

The recreational lands are tabulated by the above four categories in Table 9. However, all recreational lands are indicated alike on Plate 2. In the case of officially designated recreational lands, the areas delineated and tabulated are not necessarily fully developed. Humboldt Redwoods State Park is an example of this.

Native Vegetation

Lands which are essentially in a native state, and not included in any of the above categories, as well as scattered residences and other isolated uses too small to be delineated, were mapped as "native vegetation." However, in addition to the lands so mapped, the total acreage reported in this native vegetation category includes lands which were mapped as water surface and farm building areas, including dairies, feed lots, etc. The

total of all these lands was some 2,702,400 acres or about 96 percent of the Eel River Hydrographic Unit. Most of these lands, even in their native state, are used for commercial timber production, livestock range, and recreational activities such as fishing, hunting, hiking, and picnicking.

CHAPTER IV. LAND CLASSIFICATION

Calculations of future water requirements will be based in a large part on a classification of lands with regard to their potential for irrigated agriculture and recreational development. The results of such a land classification conducted in the Eel River Hydrographic Unit are presented in this chapter.

Lands were not classified in this survey with respect to their potential for urban development. The use of lands for urban purposes is closely related to population at any given time, and it is planned to defer designation of these lands until estimates of population and related economic studies are made in connection with determinations of future water requirements.

The former Division of Water Resources made a reconnaissance classification of lands of the State which was reported in State Water Resources Board Bulletin No. 2, "Water Utilization and Requirements of California," June 1955. In that report, the area discussed herein is contained in the "Upper Eel," "Humboldt," and "Mattole" Hydrographic Units. The data on agricultural lands reported herein are in considerably greater detail than the information in Bulletin No. 2. This bulletin also includes additional data on classification of potential recreational lands not contained in Bulletin No. 2.

Results of the land classification survey conducted in the Eel River Hydrographic Unit in 1959 are presented pictorially on Plate 3 "Classification of Lands," Sheets 1 through 45. The total acreages of each classification are enumerated by subunits in Table 13.

Methods and Procedures

The general methods and procedures used in field mapping, area determinations, and tabulation of acreages were essentially the same as those described for the land use survey in Chapter III. An example of land classification delineations on an aerial photograph is shown in Illustration 14 on Page 100.

The standards used in the classification of lands are given in detail in Table 11.

Table 11

LAND CLASSIFICATION STANDARDS

Land class: symbol :	Characteristics
	Irrigable Lands
V	These lands are level or slightly sloping and vary from smooth to hummocky or gently undulating relief. The maximum allowable slope is six percent for smooth, reasonably large-sized bodies lying in the same plane. As the relief increases and becomes more complex, lesser slopes are limiting. The soils have medium to deep effective root zones, are permeable throughout, and free of salinity, alkalinity, rock or other conditions limiting crop adaptability of the land. These lands are suitable for all climatically adapted crops.
H	These are lands with greater slope and/or relief than those of the V class. They vary from smooth to moderately rolling or undulating relief. The maximum allowable slope is 20 percent for smooth, reasonably large-sized bodies lying in the same plane. As the relief increases and becomes more complex, lesser slopes are limiting. The soils are permeable, with medium to deep effective root zones, and are suitable for the production of all climatically adapted crops. The only limitation is that imposed by topographic conditions.
M	These are lands with greater slope and/or relief than those of the H class. They vary from smooth to steeply rolling or undulating relief. The maximum allowable slope is 30 percent for smooth, reasonably large-sized bodies lying in the same plane. As the relief increases and becomes more complex, lesser slopes are limiting. The soils are permeable, with medium to deep effective root zones, and are suitable for the production of all climatically adapted crops. The only limitation is that imposed by topographic conditions.

Table 11 (Continued)

LAND CLASSIFICATION STANDARDS

Land class: symbol :	Characteristics

The foregoing may be modified, as conditions warrant, by use of one or more of the following symbols:

w - Indicates the presence of a high water table, which in effect limits the present crop adaptability of these lands to pasture crops. Drainage and a change in irrigation practice would be required to affect the crop adaptability.

s - Indicates the presence of an excess of soluble salts or exchangeable sodium in slight amounts, which limits the present adaptability of these lands to crops tolerant to such conditions. The presence of salts within the soil generally indicates poor drainage and a medium to high water table. Reclamation of these lands will involve drainage and the application of small amounts of amendments and some additional water over and above crop requirements in order to leach out the harmful salts.

ss - Indicates the presence of an excess of soluble salts or exchangeable sodium in sufficient quantity to require the application of moderate amounts of amendments and some additional water over and above crop requirements in order to effect reclamation.

sa - Indicates the presence of an excess of soluble salts or exchangeable sodium in sufficient quantity to require the application of large amounts of amendments and some additional water over and above crop requirements in order to effect reclamation.

h - Indicates very fine textures, which in general make these lands best suited for the production of shallow-rooted crops.

l - Indicates fairly coarse textures and low moisture-holding capacities, which in general make these lands unsuited for the production of shallow-rooted crops because of the frequency of irrigations required to supply the water needs of such crops.

p - Indicates shallow depth of the effective root zone, which in general limits use of these lands to shallow-rooted crops.

r - Indicates the presence of rock on the surface or within the plow zone in sufficient quantity to prevent use of the land for cultivated crops.

-(L) - Indicates ground cover varying from a light to moderately dense growth of low brush through a low density growth of medium height trees.

Table 11 (Continued)

LAND CLASSIFICATION STANDARDS

Land class: symbol :	Characteristics
-(M)	Indicates ground cover varying from a high density growth of low brush through a moderately dense growth of medium height to tall trees.
-(H)	Indicates ground cover varying from a high density growth of medium height trees through a very dense growth of large trees.
-2, - 4, - 6, or - 8	Number indicates in feet the average difference between highs and lows due to microrelief.
-B	Indicates low-lying basin and seep areas.
	Urban and Recreational Lands
UD	The total area of cities, towns, and small communities presently used for residential, commercial, recreational and industrial purposes.
SR	Existing and potential suburban residential areas which have a low population density. These lands are further subdivided into either a high or low water using category. This is indicated by a number in the symbol, i.e., SR-1 includes those lands where it is expected the entire area will be utilized for lawns, gardens, small orchards, etc., and has a high water use. SR-2 indicates lands where a large percentage of the area is expected to be non-water using, hence an area of low water use. All the SR lands are also classed according to the four major topographic classes used for the classification of irrigable lands, i.e., V, H, M, and N.
RR	Existing and potential permanent and summer home tracts within a primarily recreational area. The estimated number of houses, under conditions of full development, is indicated by a number in the symbol, i.e., RR-3 is suitable for three houses per acre.
RC	Existing and potential commercial areas which occur within a primarily recreational area and which include motels, resorts, hotels, stores, etc.
RT	Existing and potential camp and trailer sites within a primarily recreational area.
PP	Existing racetracks, fairgrounds, and private, city, county, state, and federal parks.

Table 11 (Continued)

LAND CLASSIFICATION STANDARDS

Land class: symbol :	Characteristics
	Miscellaneous Lands
F	Presently forested lands, or lands subject to forest management, which meet the requirements for irrigable land but which, because of climatic conditions and physiographic position, are better suited for timber production or some type of forest management program rather than for irrigated agriculture.
Va	Smooth lying valley lands which are affected by such heavy concentrations of salts that further detailed studies would be required to determine the feasibility of reclaiming these lands for irrigated agriculture.
Vm	Swamp and marsh lands which usually support a heavy growth of phreatophytes and are covered by water most of the time.
N	Includes all lands which fail to meet the requirements of the above classes.

Major Categories of Land Classes

The lands mapped are grouped into four major categories: (1) irrigable lands, (2) urban lands, (3) recreational lands, and (4) miscellaneous lands. These categories are described in detail in the following paragraphs.

Irrigable Lands

Irrigable lands are grouped in appropriate classifications according to their suitability for development under irrigated agriculture and their crop adaptability. Presently irrigated lands are included within these classifications, but urban lands and recreational lands are not classed as to irrigability. The time element with respect to when the lands might be

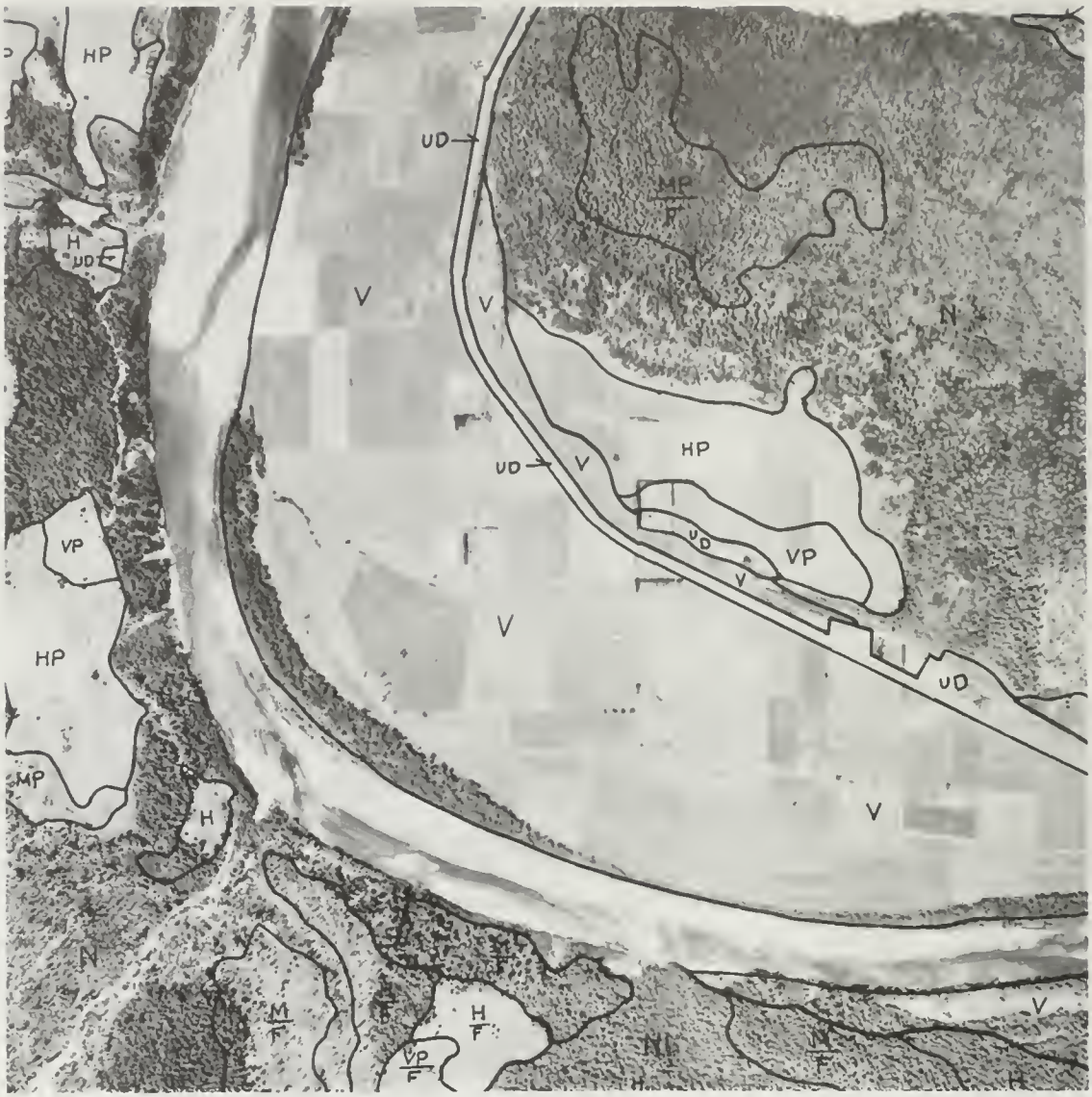

Illustration 14.

Example of land classification delineated on aerial photograph

(See Table 11, page 94, for explanation of symbols used)

developed did not enter into these determinations, except that suitability for irrigated agriculture was necessarily considered in light of present agricultural technology.

There are many factors which influence the suitability of land for irrigation development. Since soil characteristics and the physiography of the landscape are the most stable of these factors, they were the only ones considered in the survey in classifying lands as to their irrigability. The characteristics of the soil were established by examination of road cuts, ditch banks, and the material from test holes, together with observations of the type and density of native vegetation and crops. Representative slopes throughout the area were measured with a clinometer. Other aspects, such as those economic factors related to the production and marketing of climatically adapted crops, the location of lands with respect to a water supply, and climatic conditions, were not considered in the basic classification. These latter factors are very important in estimating the nature of future cropping patterns and practices and will be given due consideration when estimates are made of future water requirements.

Urban Lands

It is recognized that future urban expansion will encroach upon some of the irrigable lands. The location and extent of this type of development is a function of many variables. Because this land classification survey is an inventory of relatively unchanging physical conditions, no attempt was made to locate the areas of future urban encroachment. Therefore, only those lands devoted to urban uses in 1958, including cemeteries and golf courses near urban areas, are designated as "urban" lands.

TABLE 12

CLASSIFICATION OF LANDS IN
EEL RIVER HYDROGRAPHIC UNIT

(In acres)

Subunit and County	Irrigable agricultural lands																Urban lands (1958)	Recreational lands					Miscellaneous lands	
	Smooth lying							Gently sloping					Steeply sloping			Total								
	V	Vw	VI	Vp	Vpr	Vr	Vs	H	Hp	Hpr	Hr	HI	M	Mp	Mpr		UD	RR	RC	RT	PP	Total	F	Vm
Bell Springs																								
Humboldt	90	10	0	0	0	0	0	80	0	0	0	0	0	20	0	200	110	0	0	0	0	0	5,730	0
Mendocino	30	10	0	0	0	0	0	10	310	0	0	0	0	270	0	630	80	0	0	0	0	0	3,090	0
Trinity	130	60	0	0	0	0	0	80	20	0	0	0	0	110	0	400	10	10	0	10	0	20	4,010	10
Subunit Total	250	80	0	0	0	0	0	170	330	0	0	0	0	400	0	1,230	200	10	0	10	0	20	12,830	10
Black Butte River																								
Glenn	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	450	0	320	0	770	4,430	0
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0
Mendocino	10	0	0	0	0	0	0	0	0	0	0	0	110	0	0	120	0	100	0	240	0	340	2,950	0
Subunit Total	10	50	0	0	0	0	0	0	0	0	0	0	110	0	0	170	0	550	0	560	0	1,110	7,510	0
Cape Mendocino																								
Humboldt	3,490	30	20	0	0	10	0	2,440	370	0	0	0	90	320	0	6,770	380	10	0	50	0	60	20,430	0
Mendocino	20	0	0	0	0	0	0	20	0	0	0	0	0	0	0	40	0	0	0	0	0	0	360	0
Subunit Total	3,510	30	20	0	0	10	0	2,460	370	0	0	0	90	320	0	6,810	380	10	0	50	0	60	20,790	0
Etsel																								
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0
Mendocino	540	80	140	90	40	0	0	130	1,410	410	0	0	20	440	0	3,300	0	0	0	60	0	60	7,000	10
Subunit Total	540	80	140	90	40	0	0	130	1,410	410	0	0	20	440	0	3,300	0	0	0	60	0	60	7,070	10
Eureka Plain																								
Humboldt	7,020	3,020	520	5,430	0	0	340	2,720	1,970	0	0	60	3,080	1,410	0	25,570	10,000	30	0	10	110	150	5,350	70
Humboldt Redwoods																								
Humboldt	490	0	50	0	0	0	0	260	0	0	0	0	70	0	0	870	810	150	10	0	23,110	23,270	9,920	0
Lake Benbow																								
Rumboldt	580	0	0	0	0	60	0	740	0	0	0	0	140	40	0	1,560	680	160	20	30	1,530	1,740	9,150	0
Mendocino	240	40	0	0	0	10	0	600	220	0	0	0	360	450	0	1,920	460	0	120	100	630	850	8,590	0
Subunit Total	820	40	0	0	0	70	0	1,340	220	0	0	0	500	490	0	3,480	1,140	160	140	130	2,160	2,590	17,740	0
Lake Pillsbury																								
Glenn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	860	0
Lake	270	50	0	0	0	320	0	380	500	0	110	0	0	130	0	1,760	70	930	140	1,520	0	2,590	12,470	0
Mendocino	40	0	0	0	0	0	0	80	0	0	20	0	160	200	0	500	80	110	0	170	0	280	1,030	0
Subunit Total	310	50	0	0	0	320	0	460	500	0	130	0	160	330	0	2,260	150	1,040	140	1,690	0	2,870	14,360	0
Larabee Creek																								
Humboldt	200	0	90	0	0	0	0	220	20	0	0	0	40	0	0	570	20	10	0	0	0	10	12,860	10
Lower Eel																								
Humboldt	24,810	960	110	3,200	0	0	0	1,900	4,450	0	0	160	460	2,160	0	38,210	3,530	40	20	0	1,280	1,340	7,320	0
Laytonville																								
Mendocino	2,840	100	0	310	0	10	0	2,060	3,370	30	0	0	40	1,790	20	10,570	910	0	0	10	60	70	3,250	0
North Fork																								
Mendocino	250	20	0	0	0	0	0	60	210	50	0	0	0	300	0	890	0	0	0	0	0	0	3,060	10
Trinity	760	50	0	0	0	0	0	480	80	0	0	0	390	30	0	1,790	10	110	0	760	0	870	5,090	10
Subunit Total	1,010	70	0	0	0	0	0	540	290	50	0	0	390	330	0	2,680	10	110	0	760	0	870	8,150	20
Outlet Creek																								
Mendocino	5,630	1,430	180	1,000	0	0	0	1,210	3,140	10	0	0	70	3,090	20	15,780	2,030	0	50	30	30	110	6,810	0
Round Valley																								
Mendocino	9,540	300	940	4,400	0	0	0	220	1,890	10	0	0	0	430	0	17,730	580	0	0	30	0	30	2,850	0
Sequoia																								
Humboldt	690	10	20	0	0	0	0	420	0	0	0	0	30	20	0	1,190	450	210	0	30	340	580	13,150	0
Trinity	0	0	0	0	0	0	0	110	0	0	0	0	140	0	0	250	10	30	0	100	0	130	3,940	0
Subunit Total	690	10	20	0	0	0	0	530	0	0	0	0	170	20	0	1,440	460	240	0	130	340	710	17,090	0

TABLE 12 (Continued)

CLASSIFICATION OF LANDS IN EEL RIVER HYDROGRAPHIC UNIT

(In acres)

Subunit and County	Irrigable agricultural lands															Total	Urban lands (1958)	Recreational lands					Miscellaneous lands	
	Smooth lying							Gently sloping					Steeply sloping											
	V	Vw	VI	Vp	Vpr	Vr	Vs	H	Hp	Hpr	Hr	HI	M	Mp	Mpr		UD	RR	RC	RT	PP	Total	F	Vm
Van Duzeo River																								
Humboldt	4,240	140	660	60	0	0	0	880	730	0	0	0	80	240	0	7,030	450	430	20	410	170	1,030	14,950	10
Trinity	1,080	0	70	0	0	0	0	260	0	0	40	0	270	0	0	1,720	20	300	0	260	0	560	2,620	0
Subunit Total	5,320	140	730	60	0	0	0	1,140	730	0	40	0	350	240	0	8,750	470	730	20	670	170	1,590	17,570	10
Wilderness																								
Mendocino	0	10	0	10	0	0	0	10	0	0	0	0	0	0	0	30	0	400	0	740	0	1,140	1,810	30
Trinity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	240	0	270	490	0
Subunit Total	0	10	0	10	0	0	0	10	0	0	0	0	0	0	0	30	0	430	0	980	0	1,410	2,300	30
Willis Ridge																								
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mendocioo	790	20	0	0	0	0	0	1,020	1,050	10	120	0	50	510	80	3,650	80	40	10	0	0	50	4,100	10
Subunit Total	790	20	0	0	0	0	0	1,020	1,050	10	120	0	50	510	80	3,650	80	40	10	0	0	50	4,100	10
Yager Creek																								
Humboldt	20	30	0	0	0	0	0	220	0	0	0	0	30	0	0	300	20	0	0	0	0	0	7,360	0
County Totals																								
Glenn	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	450	0	320	0	770	5,290	0
Humboldt	41,630	4,200	1,480	8,690	0	70	340	9,870	7,530	0	0	220	4,020	4,220	0	82,270	16,410	1,050	70	540	26,550	28,210	106,200	90
Lake	270	50	0	0	0	320	0	380	500	0	110	0	0	130	0	1,760	70	930	140	1,520	0	2,590	12,670	0
Mendocino	19,930	1,990	1,250	5,820	40	20	0	5,420	11,600	510	140	0	820	7,480	120	55,140	4,220	650	180	1,370	720	2,920	44,900	60
Trinity	1,970	110	70	0	0	0	0	930	90	0	40	0	800	140	0	4,150	50	470	10	1,380	0	1,860	16,150	20
Hydrographic Unit Total	63,800	6,400	2,800	14,510	40	410	340	16,600	19,720	510	290	220	5,640	11,970	120	143,370	20,750	3,550	400	5,130	27,270	36,350	185,210	170

Recreational Lands

Present trends indicate an expanding rate of use and demand for recreational facilities throughout the State. In view of these trends and the ever-increasing population, it is recognized that there will be a dema for substantial land areas for recreational purposes. This is particularl true of the mountainous and coastal regions where this type of development is expanding rather rapidly at the present time.

Generally speaking, all mountainous and coastal lands are suitab for some recreational use such as hunting, fishing, and similar outdoor activities. However, for purposes of this survey, lands classified for recreational use are limited to those which are now, or may in the future, be used intensively for permanent and summer home tracts, camp and trailer sites, and parks outside of urban areas. These are lands requiring intens water service.

Primary considerations for classification of home tracts and cam and trailer sites were such physical factors as soil depth, slope, and roc ness; such aesthetic values as view, nearness to lakes, streams or seashor or density and type of forest canopy suitable for the respective uses; and the plans of federal and state forest officials. The availability of a wa supply was an important factor in the selection of potential camp and trai sites, but remoteness from roads did not influence site selection.

The total areas of existing federal and state parks, rather than the specific areas of potential intensive development therein, are include with the recreational lands on Plate 3. For other parks, only the areas presently developed to intensive recreational use are delineated. No atte was made to predict where additional park developments will take place.

Illustration 15. Round Valley

Illustration 16. South Fork Eel River

Miscellaneous Lands

Irrigable forest and range lands are those lands having physical characteristics which make them suitable for irrigation development, but due to physiographic position, climatic conditions, and factors associated with their present utilization, they were classified as being best suited to remain under forest or range management.

Swamp and marshlands are those which generally have water standing on them and usually support a heavy growth of tules or other phreatophytes.

CHAPTER V. SUMMARY

This bulletin presents, for the Eel River Hydrographic Unit, basic data on land and water use, classification of lands, and a minimum of analysis of these data. Field surveys to obtain the data were conducted during 1958 and 1959 as part of a comprehensive inventory of water resources and requirements of California under authorization of the 1956 State Legislature. Determinations of future water requirements, the relationships of local water resources to these requirements, and the excess or deficiency of such resources within each watershed, which constitute the basic objectives of the investigation, will be made at a later stage.

This hydrographic unit comprises a 4,404-square mile area, 80 percent of which lies in Humboldt and Mendocino Counties, with smaller portions lying in the mountainous sections of Glenn, Lake and Trinity Counties. It comprises the watersheds of the Eel, Mattole, Bear and Elk Rivers, and a number of smaller streams tributary to the Pacific Ocean and Humboldt and Arcata Bays. The unit's only sizable area of flat land is the rich coastal plain which lies around these two bays and along the lower Eel River. It is here that the bulk of the population, industry, and agriculture are located. The rest of the unit is generally mountainous, spotted with small valleys and rising to over 7,000 feet along the crest of the Coast Range. In the interior, Round, Little Lake, and Laytonville Valleys are among the more important.

Timber and forest products constitute by far the largest industry and resource of the unit. This industry had its beginning in 1850 but has experienced its greatest growth since World War II. Recreational resources are second in economic importance to the unit, the famous redwood forests

being the outstanding attraction. Agriculture is third in economic importance. Livestock and dairy cattle predominate the scene with much of the agriculturally developed lands supplying pasture, alfalfa, and supplemental stock feed. Mineral production (mainly sand and gravel) and commercial fishing are other enterprises of significance in the unit. The City of Eureka, which is also the Humboldt County Seat, and its immediate suburbs constitute the largest concentration of population within the unit Other towns in the unit are: Covelo, Laytonville, and Willits in Mendocin County; Arcata, Ferndale, Fortuna, Garberville, Rio Dell, and Scotia in Humboldt County. Numerous smaller urban communities are located throughou the area.

The major items of data presented in this bulletin are:

- a brief description of the area, its natural features, climate, resources, and past and present development
- a tabulation describing the 212 systems used to divert surface waters, including locations, names of owners and sources, data on histories, apparent water rights, purposes and extent of use in 1958 or 1959
- a tabulation of quantities of water diverted by 113 of these diversion systems during 1958 or 1959
- a tabulation of the acreages of various land uses in 1958 or 1959
- a tabulation of acreages of various crops irrigated from each diversion and with ground water in 1958 or 1959
- a tabulation of the classes of land suitable for irrigated agriculture and recreational uses.

Water Use

The following paragraphs summarize the results of a survey of surface water diversions within the unit. There were 212 diversions of water from surface streams located in the unit in the years of survey, 204 of which were used. Of the total, 140 normally serve irrigation purposes,

and of these, 133 were used in the years of survey. Small numbers of diversions are used for other purposes as follows: municipal-domestic, 34; industrial, 19; hydroelectric power, 9; fish culture and/or recreation, 8; and export for use outside the unit, 2.

Irrigation accounts for the major part of the consumptive use, municipal and industrial uses for somewhat lesser amounts. Some uses such as hydroelectric power generation, are virtually nonconsumptive. The total consumptive use of applied water in the unit in the period of survey is estimated to have been about 40,000 acre-feet per year.

Most of the 212 diversions in the unit are based on riparian rights or on appropriative rights obtained by application to the State since enactment of the California Water Commission Act of 1914, and a small number are based on appropriative rights established prior to 1914. As of November 23, 1962, there were 234 valid applications for rights to use the waters within the unit. Numerically, most of these applications are held by local parties for their own water needs. Larger quantities of water, however, are reserved by the State for future development when increasing requirements for local use and export make appropriate projects feasible.

Present Land Use

A second portion of the investigation reported herein is the survey of the uses of land in the unit in 1958 or 1959, details of which are described in Chapter III.

The acreages of land devoted to various uses in the Eel River Hydrographic Unit, as indicated by this survey, are tabulated in Tables 9 and 10. The data presented there are summarized as follows:

TABLE 13

SUMMARY OF LAND USE
IN EEL RIVER HYDROGRAPHIC UNIT

Type of use	Areas by counties (in acres)					
	Glenn	Humboldt	Lake	Mendocino	Trinity	Type totals
Agricultural lands						
Irrigated in year of study	0	15,840	10	1,270	130	17,2
Usually irrigated but idle or fallow	0	270	0	210	0	4
Dry-farmed	0	31,130	0	11,100	540	42,7
Recreational						
Residential	10	480	160	0	80	7
Commercial	0	60	20	130	10	2
Camp sites	40	50	60	20	10	1
Parks	0	26,550	0	720	0	27,2
Urban Lands	0	16,410	70	4,220	50	20,7
TOTAL DEVELOPED LANDS	50	90,790	320	17,670	820	109,6
Meadowlands	50	4,200	50	1,990	110	6,4
Marshlands	0	90	0	60	20	1
Native vegetation	53,450	1,120,660	190,300	1,020,000	318,010	2,702,4
TOTALS	53,550	1,215,740	190,670	1,039,720	318,960	2,818,6

* The relative amount of each major group is shown in Figure 1, page 106.

It can be seen from this summary that the greatest development in this hydrographic unit has occurred in Humboldt and Mendocino Counties, with the Glenn, Lake, and Trinity Counties containing only about one percent of the unit's developed lands. In Humboldt County a little more than half as much land is irrigated as is dry-farmed. Also of significance is the fact

that of the 17,250 acres irrigated in the unit, 13,770 acres were irrigated with ground water, and only 3,480 acres with surface water.

Land Classification

The third survey covering the Eel River Hydrographic Unit was the classification of lands as to suitability for irrigated agriculture and recreational development. The survey was discussed and the standards of classification explained in Chapter IV. The detailed results, as presented in Table 12, are summarized below:

TABLE 14

SUMMARY OF LAND CLASSIFICATION
IN EEL RIVER HYDROGRAPHIC UNIT

Classification	Areas by counties (in acres)					
	Glenn	Humboldt	Lake	Mendocino	Trinity	Totals*
Irrigable agricultural lands	50	82,280	1,760	55,140	4,150	143,380
Recreational lands	770	28,210	2,590	2,920	1,860	36,350
Developed urban lands	0	16,410	70	4,220	50	20,750
Irrigable forest management lands	5,290	106,200	12,670	44,900	16,150	185,210
Other lands	47,440	982,650	173,580	932,540	296,750	2,432,960
TOTALS	53,550	1,215,740	190,670	1,039,720	318,960	2,818,640

* The relative amount of each major classification is shown on Figure 2, page 106.

Some significant concentrations of certain classes are noted below:

- Humboldt County contains nearly 80 percent of the recreational lands and nearly 60 percent of the irrigable agricultural lands in the unit.
- Humboldt Redwoods and Lake Benbow Subunits together include over 90 percent of the public parks.

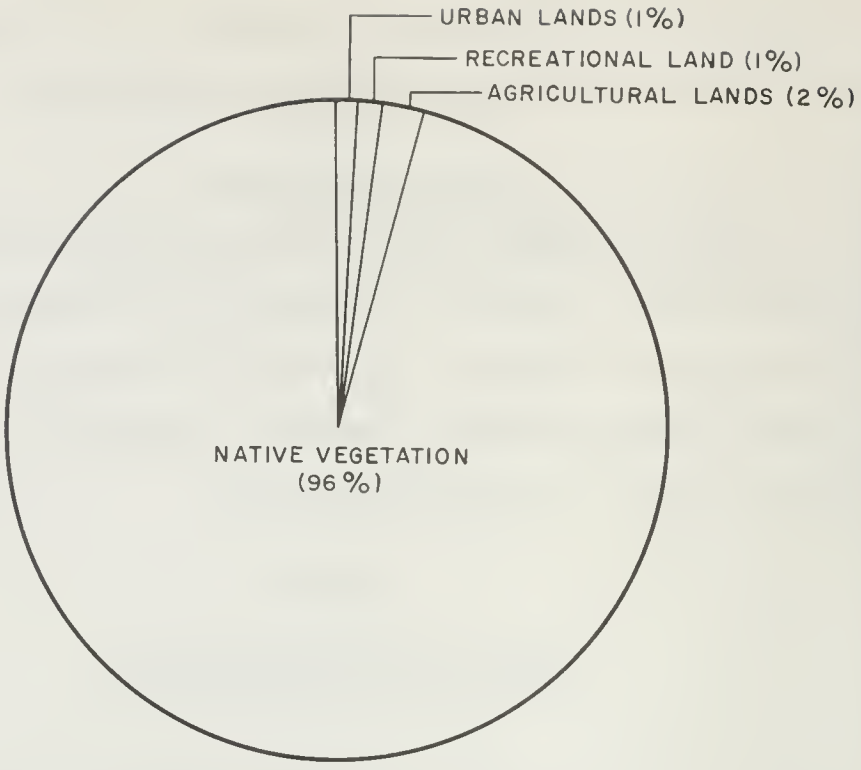

Figure 1

1958 LAND USE

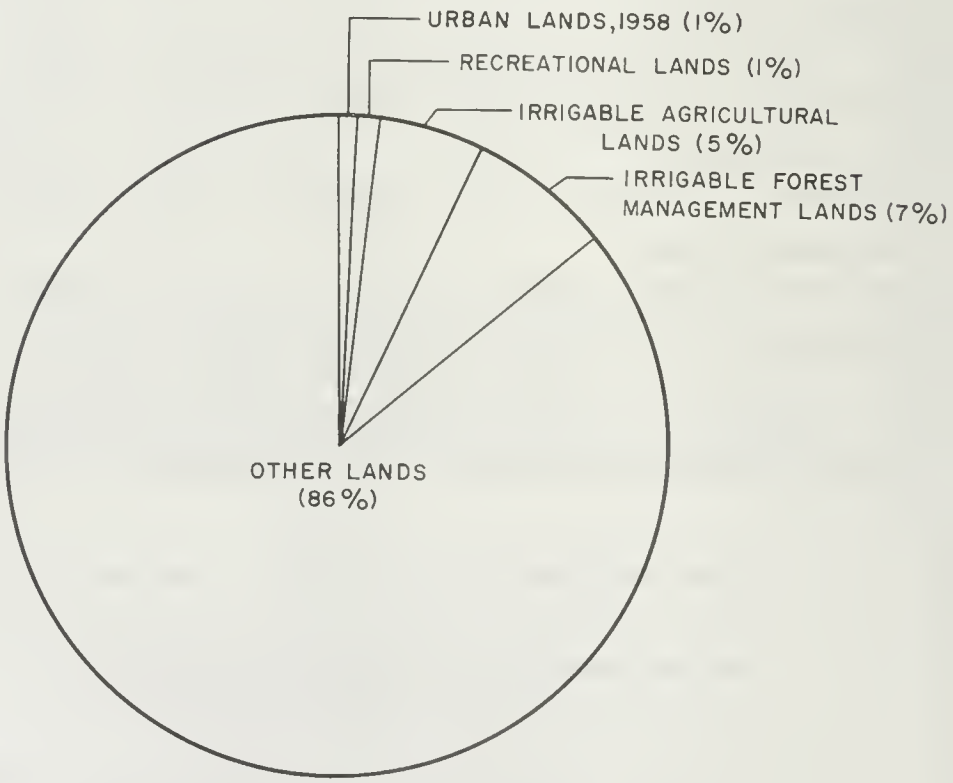

Figure 2

CLASSIFICATION OF LANDS

Figures 1 and 2, on Page 112, present a general comparison of the percentages of the hydrographic unit in the various broad groups of land use and of land classification, respectively. It is well to note that only those urban lands which were developed at the time of the land use survey are so designated in land classification. At this stage no attempt has been made either to delineate or to estimate the areas of future urban growth. However, the later phase of these studies will include estimates of the progressive encroachment of urban and similar developments upon the irrigable and other classes as a step in the determination of the future local water requirements.

An accurate comparison of the lands developed for recreational use, as of 1958, with the lands classed as suitable for such developments is difficult from Figures 1 and 2 because of the large scale and the quantities being rounded to the nearest percent. Figure 3, below, is included to illustrate the divergence between the two by excluding the "parks" category, which constitutes the bulk of the recreational lands.

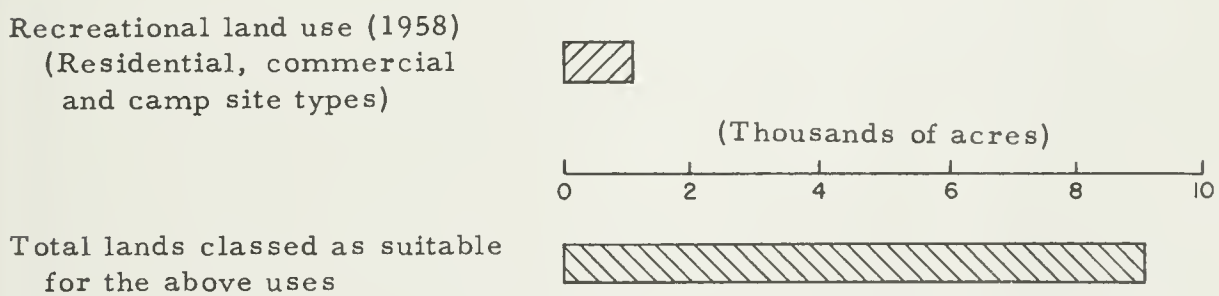

Figure 3

RECREATIONAL LANDS

1958 USE
vs
CLASSIFICATION
(Parks excluded)

APPENDIX A

COORDINATED STATEWIDE PLANNING PROGRAM

APPENDIX A

COORDINATED STATEWIDE PLANNING PROGRAM

California's major water problem today is that of development and delivery of supplemental water supplies to meet increasing water requirements throughout the State. The problem involves (1) the regulation of seasonal and cyclic fluctuation of streamflow to meet demand schedules in the areas of origin, and (2) the transmission of regulated surplus flows over long distances to areas of deficiency. The development and long-distance transfer of water is currently accomplished by such major facilities as the federal Central Valley Project and the Colorado River Aqueduct of The Metropolitan Water District of Southern California. However, such development and transfer will be considerably broadened in scope by the State Water Facilities.

Consumptive water requirements of the State on a basin-wide basis were estimated in State Water Resources Board Bulletin No. 2, "Water Utilization and Requirements of California," June 1955. However, to provide for local water needs while considering specific export projects, more detailed information must be made available on present and projected future water requirements of the areas in which the projects are to be built. This will necessitate the considerably more detailed collection and analysis of data on hydrology, land use and land capability, and economics.

Recognizing that additional information is needed if the water needs of areas of origin are to be adequately protected in large-scale water development projects, the 1956 Legislature authorized an investigation to determine the water resources and water requirements of the respective watersheds in the State.

"232. The Legislature finds and declares that in providing for the full development and utilization of the water resources of this State it is necessary to obtain for consideration by the Legislature and the people, information as to the water which can be made available for exportation from the watersheds in which it originates without depriving those watersheds of water necessary for beneficial uses therein. To this end, the department is authorized and directed to conduct investigations and hearings and to prepare findings therefrom and to report thereon to the Legislature at the earliest possible date with respect to the following matters:

(a) The boundaries of the respective watersheds of the State and the quantities of water originating therein;

(b) The quantities of water reasonably required for ultimate beneficial use in the respective watersheds;

(c) The quantities of water, if any, available for export from the respective watersheds;

(d) The areas which can be served by the water available for export from each watershed; and

(e) The present use of water within each watershed together with the apparent claims of water right attaching thereto, excluding individual uses of water involving diversions of small quantities which, in the judgment of the Director of Water Resources, are insufficient in the aggregate to materially affect the quantitative determinations included in the report.

"Before adopting any findings which are reported to the Legislature, the department shall hold public hearings after reasonable notice, at which all interested persons may be heard."
(Added by Stats. 1956 (Ex. Sess.), Ch. 61; amended by Stats. 1959, Ch. 2025.)

For purposes of this investigation, the State has been divided into 12 major hydrographic areas. These areas, in turn, have been subdivided into hydrographic units generally comprising watersheds of individual rivers. These watersheds will be field surveyed in some detail, and the data from previous studies will be brought up to date. Water resources and water requirements will be determined and reported in a series of bulletins, each covering one or more hydrographic units. Since years are required to gather adequate data for proper analysis

of water resources and water requirements, surveys of present land and water use will be made, and the data published, separately for each of the hydrographic units. In this way, the land and water use data are being made available sooner than would otherwise be possible. This report, Bulletin No. 94-8, "Land and Water Use in Eel River Hydrographic Unit," is the eighth of a series reporting the results of these surveys.

At a future date, estimates based largely on the land and water use surveys, will be made of quantities of water reasonably required for future beneficial use in each watershed. The quantity of water potentially available for export from each watershed will be determined after allowances are made for the satisfaction of the local requirements and prior rights to divert water to other areas. For those watersheds in which no exportable water is available, the water supply deficiency will be determined. These estimates will be published, as they become available, in such form as to make possible a county-by-county determination.

The calculations of future water requirements will be based, in part, on predicted future land uses derived from land classification surveys, economic studies, population forecasts, industrial and agricultural development, and recreational needs. Agricultural water requirements will be based on unit water use by the various predicted crop types; urban and recreational requirements on per capita water use values; fish and wildlife requirements on minimum streamflow needed or water demands for wildlife area; and industrial water requirements on measured water deliveries to various types and sizes of industries now existing. In forecasting future industrial development, water quality problems will be given full consideration.

Water resources will be determined from records of all stream gaging stations, including new stations established for this and other investigations of the department. The new stations were generally constructed on streams which originate in the smaller watersheds for which runoff data are necessary, but for which no data have been available. Between October 1, 1956, and November 4, 1960, seven new stations were installed in this hydrographic unit. They were all installed under the Department of Water Resources and U. S. Geological Survey Cooperative Program for stream gaging stations. These new stations are listed below:

1.	Outlet Creek Near Longvale	October 1, 1956
2.	Ten Mile Creek Near Laytonville	August 29, 1957
3.	Elk River Near Falk	September 23, 1957
4.	South Fork Van Duzen River Near Bridgeville	September 6, 1958
5.	Black Butte River Near Covelo	October 1958
6.	Larabee Creek Near Holmes	July 25, 1959
7.	Bull Creek Near Weott	November 4, 1960

APPENDIX B

REFERENCES AND REPORTS ON RELATED INVESTIGATIONS

APPENDIX B

REFERENCES AND
REPORTS ON RELATED INVESTIGATIONS

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APPENDIX C

LEGAL CONSIDERATIONS

APPENDIX C

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TABLES

APPENDIX C

LEGAL CONSIDERATIONS

There are set forth in the following paragraphs brief general statements with respect to the California law of water rights to supplement, and to provide a background for, the information on water rights contained in Chapter II. Also included is a tabulation of currently valid applications to appropriate water within Eel River Hydrographic Unit filed with the State Water Rights Board.

California Water Rights

All rights to water in California are usufructuary. They consist only in rights to the beneficial use of the water. Water itself is subject to ownership only when it has been taken into actual possession. However, the owner of an usufructuary right is entitled to have the water in the surface stream flow to the point of his diversion, or to his riparian lands, without the unlawful interference by upstream diverters who have rights which are inferior to his.

Riparian and appropriative rights to surface water are recognized in California. Riparian rights are paramount until lost or impaired by grant, condemnation, or prescription. Correlative rights to ground water, also recognized in California, are analogous to the riparian rights to surface waters.

All water rights, both surface and underground, are subject to the doctrine of reasonable use expressed in Section 3 of Article 14 of the State Constitution. This doctrine limits the rights to the quantity of water reasonably required for beneficial use and prohibits waste, unreasonable use, or unreasonable methods of use or diversion.

Riparian Rights

Riparian rights are part and parcel of riparian lands, i.e., land contiguous to a natural watercourse within its watershed. They extend only to the smallest tract, so situated, held within the continuous chain of ownership. Each riparian right is correlative with each and every other such right within the watershed. In the event of insufficient water for all, the available supply must be prorated, except that an upper riparian owner may take the whole supply if necessary for domestic use. Riparian rights extend to future reasonable requirements for beneficial use upon riparian lands.

Riparian rights do not authorize use of water on nonriparian lands, nor do they permit the seasonal storage of water. They are not created by use nor are they lost by nonuse. They do not prevent temporary appropriation by others of water not presently needed on riparian lands. The rights may be severed or lost, in the whole or in part, by grant or condemnation, and they cannot thereafter be restored. A parcel of land loses its riparian right when severed from land bordering the stream by conveyance, unless the right is specifically reserved for the severed parcel in the instrument of conveyance. Riparian rights cannot be transferred for use upon another parcel of land.

Riparian rights are superior to appropriative rights, except in the case of rights founded on appropriations of water upon vacant public lands initiated before valid steps were taken to remove the riparian lands from the domain of the United States, regardless of whether the appropriative diversions and/or the lands they serve are upstream or downstream from the riparian lands.

Appropriative Rights

The miners of the early gold-seeking period established the doctrine of appropriative water rights in California. Their procedure was based simply on beneficial use and required no recordation in establishing the right. The first procedure requiring recordation in perfecting an appropriative right was the Civil Code enactment of 1872. This procedure, modified several times, was in use until the Water Commission Act became effective on December 19, 1914.

The oldest of the procedures to perfect an appropriative right required simply that a diversion be made and the water be put to beneficial use. The date of the right began with its beneficial use.

The 1872 Civil Code procedure required that before a diversion of surface water could be made, a notice of intention describing the source of the water, the location of the proposed diversion, the amount to be diverted, the use and the place of use be posted at or near the place of proposed diversion. This notice was to be signed, witnessed, and a copy filed with the recorder in the county in which the proposed diversion was located. The appropriative right thus initiated became perfected when the water was put to beneficial use, but the rights related back to the time the notice was posted. While the 1872 Civil Code procedure was the first to require recordation, it was not an exclusive procedure, in that an appropriative right could be perfected to the extent of beneficial use simply by diverting the water and making beneficial use of it.

The Water Commission Act, on the other hand, established an exclusive procedure for the appropriation of water. This enacement requires that a permit be obtained from the State of California before water can be appropriated. The procedure outlined by the Water Commission Act, as now

codified in the Water Code, requires that first an application to appropriate water be submitted to the State Water Rights Board. Upon the approval of the application, a permit is issued so that the applicant can construct the features necessary to put the water to beneficial use. When the project has been completed, an inspection of it is made and a license is issued, to the extent of beneficial use, provided the terms and conditions of the permit have been fulfilled.

Once an appropriative water right has been initiated, it must be diligently prosecuted to completion in order to maintain its date of priority. While water may not be appropriated for a distant future use, a reasonable amount of time is allowed to put the full amount of water to use within the original intent of the application to appropriate water.

A right to appropriate water is lost by abandonment or continuous nonuse. In the case of an appropriation initiated prior to 1914, the period of continuous nonuse is five years, while under the Water Commission Act, or the Water Code, the period of continuous nonuse is only three years. Domestic use of water is the highest use and irrigation next highest use of water as provided in the Water Code.

Prescriptive Rights

The owner of a riparian or an appropriative right may lose his right by prescription. This is a process based upon use of the water in a manner adverse to the interest of the true owner. In establishing a claim to another party's right by prescription, the claimant must make such adverse use of the water under a number of specific conditions. Absence of any one of these conditions is fatal to acquisition of the prescriptive right. Invasion of the riparian or appropriative right by prescription may be prevented by legal action on the part of the true owner.

Ground Water Rights

The permit and license procedure established by the Water Commission Act applies only to streams and other bodies of surface water and to subterranean streams flowing through known and definite channels. Percolating ground water is therefore excluded, and rights to its use are governed by judicial decisions rather than by statute. Ground waters are presumed to be percolating in the absence of evidence to the contrary.

The owner of land overlying a ground water basin or stratum has, like the riparian owner, a paramount right to the reasonable beneficial use of the natural supply upon his overlying land, which right he holds in common with all other landowners similarly situated. Only surplus water in excess of reasonable requirements for beneficial use upon overlying lands is subject to appropriation for beneficial use upon other lands. Prescriptive rights to ground water may be acquired under the same circumstances as prescriptive rights to water of surface streams.

Where ground water and surface water are interconnected, one acting as a tributary to the other, both are treated as part of a common supply, and users of water from either source are entitled to protection from substantial injury as a result of use by others of water from the other source. Thus, an owner of land riparian to a stream may have his right to the use of water protected against impairment by an appropriator of percolating ground water tributary to the stream and required for the maintenance and support of its flow. Likewise, where water from a stream percolates to a ground water basin or stratum, the owner of land overlying such ground water may be protected from an appropriation of water of the stream, if such use causes a substantial impairment of the ground water supply. As between riparian use of surface water and overlying

use of ground water tributary to the stream, a sharing of the available water supply on the basis of reasonable beneficial use should be made.

Determination of Water Rights

Under provisions of the State Water Code, actions involving determinations of rights to the use of water brought in either state or federal courts may, at the court's discretion, be referred to the State Water Rights Board. Under provisions of Water Code Section 2000, the court may appoint the board to referee "any or all issues involved in the suit," or under Section 2001 it may limit the reference to "investigation of and report upon any or all physical facts involved." This reference procedure may be followed in suits involving either or both surface and ground waters.

A simplified procedure is available for adjudication of rights to the use of water of streams, lakes, and other bodies of water, but the method excludes the determination of rights to take water from an underground supply other than from a subterranean stream flowing through known and definite channels. Water Code Sections 2500 to 2900, inclusive, authorize the initiation of such a proceeding before the board. The board then makes an engineering investigation and report, holds hearings, and prepares an order of determination which is submitted to the court. After hearings, the court makes a final determination of the water rights.

Court actions which involve a determination of all the relative rights to the use of water of an entire stream or stream system and/or ground water basin afford a basis for distribution of water after decree under watermaster service. Water users may secure the services of the Department of Water Resources under Water Code Sections 4000 to 4407, inclusive, in making distribution of the water to them according to their respective rights, as determined by the court.

There have been no major adjudications of water rights in the Eel River Hydrographic Unit. Consequently, neither the State Water Rights Board nor any of its predecessor agencies have been involved in a court reference, and state watermaster service has not been established.

Applications to Appropriate Water

The 234 applications to appropriate water within the Eel River Hydrographic Unit, filed with the State Water Rights Board since 1914 and active on November 23, 1962, are summarized in Table C-1. In this table, the locations of those diversions for which applications to appropriate water are on file with the State, and which are reported in this bulletin are indicated in the table. The status of each application as to the granting of a permit or license is also shown in the table.

TABLE C-1
APPLICATIONS TO APPROPRIATE WATER IN
EEL RIVER HYDROGRAPHIC UNIT
(Filed with State Water Rights Board as of November 23, 1962)

Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
1291 L-167	5/22/19	Arthur E. & Ester D. Smith		Robinson Creek	Lot	7	4	22 N	14W	M.D.	0.15 cfs	Apr. 1-Nov. 15	Irrigation
1719 L-1424	3/12/20	Pacific Gas & Electric Co.	18N/10W-23D1	Eel River	SW	SW	14	18 N	10W	M.D.	102,366 AFA	Nov. 1-June 1	Power
				(Rediversion) Eel River	NE	SE	30	18 N	11 W	M.D.			
2039 L-314	10/ 8/20	Margaret Fuller-Brown	19N/10W-30H1	Mill Creek	SE	NE	30	19 N	10 W	M.D.	0.05 c.f.s.	May 1-Nov. 1	Irrigation
												All year	Domestic
3184 L-468	12/16/22	Effie A. Brittingham, James P. & Vi-Ann Cochran		Alder Spring	SE	SE	24	18N	12W	M.D.	0.006 cfs	All year	Domestic
3186 L-1212	12/18/22	Clinton Martin		Conley Creek	NE	SW	21	2S	5E	H.	0.011 cfs	May 1-Oct. 1	Irrigation
3189 L-500	12/21/22	Anton Rasmussen	5N/1E-10G1	Jacoby Creek	SW	NE	10	5N	1E	H.	0.25 cfs	June 1-Oct. 1	Irrigation
4413 P-2717	1/8/25	Benbow Trust and California Division of Beaches & Parks		East Branch South Fork Eel River	NE	SW	36	4S	3E	H.	0.92 cfs	Apr. 1-Oct. 31	Irrigation, Domestic Recreation
			4S/3E-36 J1	East Branch South Fork Eel River	NE	SE	36	4S	3E	H.		Apr. 1-Oct. 31	
			4S/3E-36 H1	East Branch South Fork Eel Riv.	SE	NE	36	4S	3E	H.		Apr. 1-Oct. 31	
				South Fork Eel River	SW	SW	31	4S	4E	H.		Apr. 1-Oct. 31	
				South Fork Eel River	SW	SE	36	4S	3E	H.	0.35 cfs	Apr. 1-Oct. 31	
			4S/3E-36 N1	South Fork Eel River	Lot	2	2	5S	3E	H.	1054.74 AFA	Apr. 1-Oct. 31	
4485 L-1359	2/28/25	Ronald L. Kousen	5N/1E-33 L 1	Freshwater Creek	NE	SW	33	5N	1E	H.	0.17 cfs	Apr. 1-Nov. 15	Irrigation
4572 P-2352	5/7/25	Pacific Gas & Electric Co.	18N/13N-33 H1	James Creek	SE	NE	33	18N	13W	M.D.	635 AFA 2.0 cfs	All year All year	Municipal
4996 L-1222	4/15/26	Dorothy Helen Brown		Tributary to Mattole River	NW	SW	30	2S	1W	H.	15,000 gpd	All year	Irrigation, Domestic
5089 L-1210	7/ 7/26	Anton Rasmussen	5N/1E-10 G1	Jacoby Creek	SW	NE	10	5N	1E	H.	0.05 cfs	June 1-Oct. 1	Irrigation
5154 L-1164	8/13/26	H. James Bridges & Dorothy B. Redmond		Tributory to Mattole River	SE	NW	30	2S	1W	H.	0.013 cfs	All year	Irrigation, Domestic
5228 L-1223	10/ 2/26	Herman & Marie Halvorsen	5N/1E-16B1	Rocky Gulch	NW	NE	16	5N	1E	H.	0.12 cfs	June 1-Oct. 1	Irrigation

Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
5274 L-2019	11/18/26	Owners of Madrono Rest Summer Home		Spring Tributary to South Fork of Eel River	NE	NE	10	3S	3E	H.	3,900 gpd	May 1-Nov. 30	Domestic
5317 L-2294	12/28/26	Lloyd F. Cook	5S/3E-24Q1	South Fork of Eel River	SE	SW	24	5S	3E	H.	0.15 cfs	May 15-Sept 30	Irrigation, Domestic
5345 L-897	2/ 4/27	David S. Ward & Ronald L. Kausen	5N/1E-25M1	Third Slough	NW	SW	25	5N	1W	H.	0.07 cfs	June 1-Oct. 1	Irrigation
5356 L-939	2/14/27	L. & Mary Grimmeison		Mad Creek	NE	SE	22	23N	16W	M.D.	0.05 cfs	June 15-Sep 15 All Year	Irrigation Domestic
5504 P-3027	6/ 1/27	The Pacific Lumber Co.	1N/1E-18 B1	Eel River	NW	NE	18	1N	1E	H.	18.6 cfs	All Year	Domestic, Industrial
5661 L-1199	8/15/27	The Pacific Gas & Elec. Co.		South Eel River	SW	SW	14	18N	10W	M.D.	4,500 AFA	Nov. 1-Apr. 30	Irrigation
			18N/11W-30H1	South Eel River	NE	SE	30	18N	11W	M.D.			
				South Eel River	NW	NW	6	17N	11W	M.D.			
6392 L-1379	8/ 2/29	P.M. Schmook		Eel River	Lot	9	31	2N	1E	H.	1,440 gpd	June 1-Nov. 1	Irrigation
6426 L-2066	9/ 3/29	Holton Hornbeck, Robert H. Hornbeck Claudine D. Cox Merrill Taylor Ira B. Stewart Henry Fischer Charles Bettencourt Helen Cunningham Leslie P. Walton Earl Proctor Menelle P. Taylor Vendla E. Stewart Jo Ann Stewart Annie Bettencourt	23N/17W-12K1	Big Dann Creek	NW	SE	12	23N	17W	M.D.	10,250 gpd	All Year	Irrigation, Domestic
6544 L-1365	1/25/30	Richard H. & Grace Finn		Tributary to Eel River	Lot	2	21	19N	12 W	M.D.	5,850 gpd	June 1- Oct. 1	Domestic
6594 L-5545	3/11/30	Pacific Gas & Electric Co.		South Eel River	SW	SW	14	18N	10W	M.D.	50 cfs	May 1 - Oct. 15	Irrigation
			18N/11W-30H1	South Eel River	NE	SE	30	18N	11W	M.D.	14,500 AFA	Nov. 1-June 1	
					NW	NW	6	17N	11W	M.D.			
7179 L-1504	1/25/32	Mono M. Grout		Spring tributory to Mattole River	SW	NE	30	2S	1W	H.	4,500 gpd	All Year	Irrigation, Domestic
7224 L-2241	4/ 2/32	Elaine R. McClure		Spring tributary to Burger Creek	NE	SE	36	22N	14W	M.D.	14,200 gpd	All Year	Irrigation, Domestic
				Spring tributary to Burger Creek	SW	SW	36	22N	14W	M.D.			

* P - Permit number of applicotion approved. L - License number of right confirmed. Inc. - Application not yet complete. Pend. - Application complete but not yet approved.

** Diversion of 10 acre-feet or more per yeor located by Department of Water Resources. "D" precedes diversion location numbers throughout report.

TABLE C-1 (Continued)
APPLICATIONS TO APPROPRIATE WATER IN
EEL RIVER HYDROGRAPHIC UNIT
(Filed with State Water Rights Board as of November 23, 1962)

Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
7238 L-2465	4/14/32	Ellen I. Nehs	23N/16W-17N1	Squaw Creek	Lot	3	20	23N	16W	M.D.	1,500 gpd	All Year	Domestic, Recreation
7249 L-1623	4/30/32	Paul & Ethel Anderson		Tributary to Eel River	NW	SE	24	22N	14W	M.D.	0.025 cfs	May 1 - Nov. 1	Domestic, Recreation
7407 L-2331	10/17/32	Calvin D. & Effie May Whitney		Spring Tributary to Dobbyns Creek	SE	NW	11	3S	6E	H.	4,500 gpd	All Year	Domestic, Irrigation
7409 L-4557	10/19/32	Heath Angelo	22N/16W-29H1	Elder Creek	SE	NE	29	22N	16W	M.D.	11,000 gpd	May 1 - Nov. 1 All Year	Irrigation Domestic
7473 L-4558	12/19/32	Heath Angelo	22N/16W-29H1	Elder Creek	SE	NE	29	22N	16W	M.D.	0.68 cfs	All Year	Power
7736 L-1767	11/ 3/33	State of California Division of Highways		Hinkle Spring	Lot	2	23	23N	16W	M.D.	1,000 gpd	All Year	Recreation
8049 L-2077	8/ 3/34	Thomas R. & Hattie D. Russell		Mattole River	SW	NW	30	2S	1W	H.	175 gpd	May 1 - Oct. 15	Domestic
8060 L-2298	8/ 9/34	Einer Olson & Mabel R. Olsen		Cedar Creek	NE	NE	14	23N	17W	M.D.	3 cfs	All Year	Power
8152 L-1889	11/ 5/34	Lanes Redwood Flat Inc.	24N/17W-28E1	Dora Creek	SW	NW	28	24N	17W	M.D.	0.49 cfs	Oct. 15-May 15 All Year	Power Domestic
8426 L-2356	8/24/35	County of Humboldt	5N/1W-26H1	Tributary to Eureka Slough	SE	NE	26	5N	1W	H.	0.22 cfs	May 1-Oct. 1 All Year	Irrigation Domestic
8805 L-2850	10/ 5/36	Arcata Union High School District		Jolly Giant Creek	SW	NE	29	6N	1E	H.	0.1 cfs	May 1 - Nov. 1 All Year	Irrigation Domestic
8824 L-4320	11/ 2/36	Silvio & Louise Mozzetti	2N/1E-31C1	Tributary to Eel River	NW	NE	31	2N	1E	H.	0.067 cfs	June 1-Nov. 1	Irrigation
9382 L-2308	8/16/38	State of California Division of Highways		Spring Tributary to South Fork of Eel River	NW	SE	20	2S	3E	H.	5,000 gpd	All Year	Recreation
9518 L-4927	3/ 2/39	Harry P. Mulock & Lola M. Christensen	23N/17W-12P1	Big Dann Creek	SE	SW	12	23N	17W	M.D.	11,500 gpd	All Year	Domestic
9589 L-2642	5/18/39	Pauline M. McHugh		Beith Creek	NW	NW	3	5N	1E	H.	1,600 gpd	All Year	Domestic
9686 L-3404	7/31/39	Garberville Water Co. Inc.	4S/3E-24P1	South Fork Eel River	SW	SE	24	4S	3E	H.	0.155 cfs	All Year	Municipal
9751 L-2776	10/12/39	City of Arcata	6N/1E-28Q1 6N/1E-28H1 6N/1E-21G1 6N/1E-27E1	Park Creek Preston Creek Janes Creek Preston Creek	SW SE NE SW	SE NE SW NW	28 28 21 27	6N 6N 6N 6N	1E 1E 1E 1E	H. H. H. H.	0.31 cfs 35 AFA	All Year Nov. 1 - May 1	Municipal

(Filed with State Water Rights Board as of November 23, 1962)

Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
9788 L-2397	12/16/39	State of California Division of Highways		Spring tributary to South Fork of Eel River	NW	SE	28	2S	3E	H.	970 gpd	All Year	Recreation
9984 L-2860	8/15/40	County of Humboldt	5N/1W-26H1	Tributary to Eureka Slough	SE	NE	26	5N	1W	H.	150 gpm	May 1 - Oct. 15 All Year	Irrigation Domestic
10019 L-2558	9/28/40	Richard A. Wilson		Spring tributary to Little Horse Canyon	NW	NW	17	24N	12W	M.D.	5,200 gpd	Apr. 1 - Nov. 15	Stockwatering Domestic
10052 L-2803	11/ 1/40	Maria S. Jacob, Hilda A. Mendes & Marjorie J. Lancaster	3N/2W-35R1	Francis Creek	SE	SE	35	3N	2W	H.	0.25 cfs	May 15-Oct. 15	Irrigation
10177 L-3007	4/ 4/41	Ronald V. Smith & Elizabeth A. Rasmussen	2N/2W-5J1	Russ Creek	NE	SE	5	2N	2W	H.	0.21 cfs	May 15 - Sep. 30	Irrigation
10198 L-2959	5/ 3/41	Earl E. Evans & Edwin J. & Ellen C. White		Tributary to Redwood Creek	NW	SE	9	4S	3E	H.	12,000 gpd	May 1 - Oct. 31 All Year	Irrigation Domestic
10300 L-2965	10/14/41	Herb & Dorothy L. Flournoy	5N/1E-29P1	Tributary to Freshwater Slough	SE	SW	29	5N	1E	H.	0.25 cfs	Jun. 1 - Sep. 30 All Year	Irrigation Domestic Stockwatering
10399 L-3132	3/12/42	U.S. Mendicino National Forest		Spring tributary to Soda Creek	NE	SW	3	18N	10W	M.D.	500 gpd	May 1 - Oct. 31	Recreation
10400 L-2924	3/12/42	U.S. Mendicino National Forest		Spring tributary to Black Butte River	SW	SW	35	23N	10W	M.D.	50 gpd	May 1 - Nov. 30	Domestic, Stockwatering Recreation
10403 L-2926	3/12/42	U.S. Mendicino National Forest		Spring tributary to Middle Fork of Eel River	SE	SE	30	24N	10W	M.D.	100 gpd	May 1 - Nov. 30	Domestic Stockwatering Recreation
10513 L-4594	7/16/42	U.S. Six Rivers National Forest		Spring tributary to Mud Creek	NE	SW	11	3S	6E	H.	5,200 gpd	All Year	Domestic Stockwatering Fire Protection
10600 L-3112	2/ 9/43	Everett G. Kay	1S/4E-35J1	Larabee Creek	S½	NE	35	1S	4E	H.	0.083 cfs	June 1-Sep. 30	Irrigation
10687 L-3081	7/26/43	U.S. Six Rivers National Forest		Spring tributary to North Fork of Eel River	SW	SW	8	4S	7E	H.	250 gpd	May 1 -Oct. 31	Domestic Stockwatering
10923 L-3005	11/24/44	U.S. Six Rivers National Forest		Spring tributary to Van Duzen River	NE	NE	10	1N	5E	H.	250 gpd	June 1 - Oct. 15	Recreation
11087 L-3938	6/28/45	U.S. Six Rivers National Forest		Spring tributary to Van Duzen River	NE	SE	12	1N	5E	H.	0.045 cfs	All Year	Domestic Fire Protection
11118 L-3135	7/26/45	Harris Russ Connick & The Bank of California		Russ Creek	NW	NW	5	2N	2W	H.	10,000 gpd	May 1 - Oct. 1	Stockwatering
11196 P-6574	10/26/45	Leroy C. Tadd	1N/1E-5N1	Eel River	SE	SW	5	1N	1E	H.	0.25 cfs	June 15 - Oct. 15	Irrigation

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EEL RIVER HYDROGRAPHIC UNIT
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Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
11292 L-3216	2/21/46	Ellen Ido Nehs	23N/16W-17N1	Squow Creek	Lot	3	20	23N	16W	M.D.	0.184 cfs	All Year	Power, Domestic
11300 L-5530	3/ 5/46	Harold C. & Bernice R. Ford	3S/6E-10K1	Rock Creek	NE	SW	10	3S	6E	H.	0.25 cfs	All Year	Irrigation, Domestic
11436 L-5999	6/13/46	State of California Department of Fish & Game	23N/17W-14Q1	Cedar Creek	SW	SE	14	23N	17W	M.D.	12 cfs	All Year	Recreation, Fish Culture, Domestic
11484 L-3506	7/27/46	Walter E. Rush		Freshwater Creek	NE	NE	4	4N	1E	H.	2,000 gpd	May 1 - Oct. 1	Domestic
11496 L-3967	8/ 5/46	Eddy F. Deskins		Tributary to Berry Creek	NE	SW	16	18N	13W	M.D.	0.19 cfs	May 1 - Sep. 15 All Year	Irrigation Stockwatering
11507 L-3447	8/12/46	Ralph Burgess	3S/6E-23N1	Yew Wood Creek	NW	SW	23	3S	6E	H.	0.155 cfs	All Year	Power
11527 L-3500	8/26/46	Lee S. & Mary A. French	4S/2E-6P1	Bear Creek	NW	NW	7	4S	2E	H.	0.17 cfs	May 1 - Nov. 15	Irrigation
11871 L-3511	5/12/47	Charlie Berta	4N/1W-15N1	Elk River	SW	SW	15	4N	1W	H.	0.1 cfs	June 1 - Oct. 1	Irrigation
11876 L-3791	5/12/47	Redway Water Company	4S/3E-14L1	South Fork Eel River	NE	SW	14	4S	3E	H.	0.223 cfs	All Year	Domestic
11908 L-6529	5/28/47	Henry C. & Genevieve Linguo	22N/12W-5J1	Mill Creek	NE	SE	5	22N	12W	M.D.	0.75 cfs	June 1 - Nov. 1	Irrigation, Domestic
11966 L-3805	7/ 1/47	Philip Colli	18N/13W-19G1	Hoehl Creek	SW	NE	19	18N	13W	M.D.	0.36 cfs	May 1 - Jul. 15	Irrigation, Stockwatering
12029 L-3715	8/ 6/47	Pauline McHugh		Beith Creek	NW	NW	3	5N	1E	H.	2,500 gpd	All Year	Domestic
12317 L-3465	2/10/48	Natale Dellobolmo	4N/1W-16R1	Tributary to Elk River	SE	SE	16	4N	1W	H.	0.25 cfs	May 1 - Aug. 31	Irrigation
12319 L-3619	2/13/48	Fred Bravo	2N/1W-36M1	Eel River	NW	SW	36	2N	1W	H.	0.44 cfs	May 15 - Sep. 30	Irrigation
12442 L-4950	3/26/48	Oscar Prudek		Mill Creek	SE	NW	12	2N	1W	H.	.45 AFA	Apr. 1 - Apr. 30	Irrigation
12495 L-3626	4/30/48	Moth Comathios	4N/1W-26K1	South Fork Elk River	NW	SE	26	4N	1W	H.	0.04 cfs	May 1 - Oct. 31	Irrigation
12568 L-4024	6/25/48	Thomas & Mabel Harrington		Butte Creek	NW	SE	10	3S	3E	H.	1,000 gpd	All Year	Domestic
12590 P-7427	7/12/48	John D. & Mae Sullivan & Arnold C. & Lillian L. Jepsen	4N/1W-16J1	Elk River	NE	SE	16	4N	1W	H.	0.25 cfs	June 15-Oct. 15	Irrigation

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12798 L-4705	11/ 9/48	Holton Hornbeck		Cedar Creek	SE	NE	14	23N	17W	M.D.	3,200 gpd	All Year	Domestic
12848 L-4425	12/ 6/48	State of California Division of Beaches & Parks		Rock Creek	Lot	10	3	23N	17W	M.D.	10,000 gpd	All Year	Domestic
12872 L-3914	12/21/48	State of California Division of Beaches & Parks		Tributary to South Fork Eel Riv.	SE	SE	34	2S	3E	H.	7,500 gpd	All Year	Domestic
12908 L-5350	1/24/49	Henry C. & Ione Hindley		Tributary to Mattole River	SE	SE	11	2S	2W	H.	1,000 gpd	All Year	Domestic
12956 L-4299	2/25/49	Floyd H. & Dorothy Grandy		Kemp Creek	NW	NE	27	2N	1W	H.	500 gpd	All Year	Domestic
13210 L-3769	7/ 7/49	George Carros		Tributary to Eel River	NW	SE	33	1S	3E	H.	4,320 gpd	All Year	Domestic
13240 L-4018	7/20/49	John H. & Retha R. Neblett		Spring tributary to Mad Creek	NW	NE	27	23N	16W	M.D.	6,500 gpd	All Year	Domestic
13278 L-4093	8/ 5/49	Paul & Claire Mazzucchi	4N/1W-26R1	South Fork Eel River	SE	SE	26	4N	1W	H.	0.27 cfs	June 15 - Aug.30	Irrigation
13475 L-3757	11/21/49	Simeon L. Zane	4N/1W-22F1	Elk River	NE	NW	22	4N	1W	H.	0.1 cfs	July 1-Oct. 1	Irrigation
13677 L-4627	4/ 7/50	A.W. Menke, Jalmer Berg, Cornelius H. Siemens, & H. E. Walter	6N/1E-32M1	McDaniels Slough	NW	SW	32	6N	1E	H.	0.15 cfs	June 1 - Oct. 1	Irrigation
13678 L-3815	4/ 7/50	Walter Moranda	6N/1E-29M1	McDaniel Slough	SW	SW	29	6N	1E	H.	0.15 cfs	June 1 - Oct. 1	Irrigation
13699 L-4965	4/20/50	E.F. Steinmeyer & W.T. & Frances Ramsing	19N/12W-8Q1	South Eel River	SW	SE	8	19N	12W	M.D.	0.05 cfs	May 15-Oct. 15	Irrigation
			19N/12N-17A1	Sauth Eel River	NE	NE	17	19N	12W	M.D.	0.44 cfs	May 15-Oct. 15	
			19N/12W-17J1	South Eel River	NE	SE	17	19N	12W	M.D.	0.07 cfs	May 15-Oct. 15	
13721 L-3856	5/ 5/50	John R. &. Catherina C. Harvey		Tributary to Reeves Creek	SW	SE	11	19N	14W	M.D.	6,000 gpd	All Year	Domestic
13731 L-5116	5/11/50	Frank J. Alberti		Outlet Creek	NE	NW	23	20N	14W	M.D.	12,000 gpd	May 1 - Oct. 31	Irrigation Stockwatering
13736 P-8586	5/15/50	George W. Sondag & R. N. Nason Jr.		Tributary to Blue Rock Creek	NE	SE	32	24N	15W	M.D.	0.20 cfs	May 1 - Dec. 31	Irrigation
13777 L-4101	6/ 9/50	Karel A. Smith		Town Creek	NW	NW	7	22N	12W	M.D.	0.035 cfs	June 1 - Sep. 15	Irrigation
13783 L-4418	6/12/50	Ulysses S. Stockhoff		North Fork Elk Creek	SW	NE	26	4N	1W	H.	0.17 cfs	May 15 - Oct. 15	Irrigation, Domestic Stockwatering

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					¼	¼	Sec.	Tp.	R.	B & M			
13822 P-8460	6/28/50	Harris Russ Cannick & Bank of California N.A., Trustee		Subterranean Stream Tributary to Pacific Ocean	NW	NE	29	3N	2W	H.	9 cfs	Mar. 1 - Dec. 1	Irrigation
				Subterranean Stream Tributary to Pacific Ocean	SW	NE	29	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	NE	SW	29	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	NE	NW	32	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	SW	NW	32	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	SE	NW	32	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	SW	SW	32	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	SW	SE	32	3N	2W	H.			
				Subterranean Stream Tributary to Pacific Ocean	NE	SE	32	3N	2W	H.			
13912 L-5571	8/23/50	G. L. Jessup	21N/15W-11M1	Mill Creek	NW	SW	11	21N	15W	M.D.	0.09 cfs	Apr. 15-Oct. 1	Irrigation
13948 L4047	9/12/50	Dean Witter	4S/7E-19G1	Kakawaka Creek	NW	SE	19	4S	7E	H.	1.0 cfs	May 1-Oct. 31	Irrigation
13979 L-4152	10/4/50	Holton Hombeck		Cedar Creek	SE	NE	14	23N	17W	M.D.	0.11 cfs	All year	Industrial, Fish Culture
14029 L-4622	11/2/50	Warren L. Smith	3S/3E-4F1	Spring Tributary to Salmon Creek	SE	NW	4	3S	3E	H.	0.09 cfs	Apr. 1-Nov. 1	Irrigation
14076 L-4136	11/28/50	Warren L. Smith	3S/3E-5H1	Spring Tributary to Salmon Creek	SE	NE	5	3S	3E	H.	0.03 cfs	Apr. 1-Nov. 1	Irrigation
14080 L-5348	11/30/50	Myers Water Works	2S/3E-30K1	Pete Creek	NW	SE	30	2S	3E	H.	0.4 cfs	All year	Municipal
14137 L-4515	1/22/51	George M. Lampley		Spring tributary to Kekawaka Creek	NW	SE	7	4S	7E	H.	1,000 gpd	All year	Domestic
14256 L-6427	4/16/51	John L. Chambers	2S/2W-10C1	Mattole River	NE	NW	10	2S	2W	H.	0.89 cfs	June 1-Oct. 1	Irrigation
14485 L-4130	9/17/51	Dora Casanova Damon		Bear River	SE	SE	25	1N	2W	H.	100 gpd	All year	Domestic
14509 L-6433	10/4/51	Lloyd Roberts	2S/2W-11G1	Mattole River	SW	SE	11	2S	2W	H.	0.12 cfs	May 1-Oct.15	Irrigation
14538 L-4564	10/29/51	Joseph R. Cook	1S/2W-33J1	North Fork Mattole River	SE	SE	33	1S	2W	H.	0.43 cfs	May 1-Oct. 1	Irrigation

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14581 L-4581	11/16/51	George W. & Bertha J. Hockett		Spring tributory to Von Dugen River	SE	SW	17	2N	1E	H.	4,500 gpd	All yeor	Domestic Stockwatering
14594 L-4914	12/7/51	Russell & Heleno R. Chombers		Mill Creek	NW	NE	10	2S	2W	H.	0.035 cfs	May 15-Oct. 15	Irrigotion
14652 L-4386	1/22/52	Stote of Colifomio, Division of Beoches & Porks	5S/3E-14K1	Durphy Creek	NE	SW	14	5S	3E	H.	0.046 cfs	All yeor	Domestic
14691 L-5082	2/28/52	Alice Hulse Kinsey	5S/4E-4A1	Eost Bronch of South Fork of Eel River	Lot	6	4	5S	4E	H.	0.5 cfs	Moy 1-Nov. 1	Irrigotion
14746 L-4526	4/14/52	Fronk Valsecchi	2N/2W-1N1	Williams Creek	SW	SW	1	2N	2W	H.	13,500 gpd	June 1-Sept. 30	Irrigotion
14814 L-5018	5/20/52	Elmer L. & Myrtle E. Brown		Underground Stream Tributary to Mill Creek	SW	NE	31	23N	12W	M.D.	0.025 cfs	July 1-Oct. 15	Irrigotion Domestic
14894 L-6177	7/7/52	Jessie B. & Dorris G. Smith		Spring tributary to Middle Fork Eel River	SE	SW	31	23N	11W	M.D.	600 gpd	Moy 1-Dec. 1	Domestic
15036 L-5032	9/2952	Somuel Lee Griffin		Cedor Creek	NE	SE	14	23N	17W	M.D.	7,500 gpd	All yeor	Domestic
15037 L-4869	10/2/52	State of Californio, Division of Forestry		Springs tributory to South Dobbyn Creek	SE	NW	22	3S	5E	H.	650 gpd	Moy 15-Oct. 31	Domestic
15049 L-5373	10/14/52	Thomos H. Monroe		Spring tributory to Foy Slough	SW	SE	21	5N	1E	H.	4,000 gpd	April 1-Oct. 31 All year	Irrigotion Domestic
15089 L-4495	11/20/52	Leland W. Hodley	2S/1W-34K1	Mottole River	NW	SE	34	2S	1W	H.	0.7 cfs 35 AFA	April 1-Dec. 31 April 1-Dec. 31	Industriol, Fire Protection
15116 L-5223	12/12/52	Louis F. Adams	2S/1W-30C1	Mottole River	NE	NW	30	2S	1W	H.	0.35 cfs	Moy 15-Oct. 15	Irrigotion
15173 P-9374	1/28/53	Sidney W. Green		Mottole River	SW	NW	15	5S	2E	H.	0.125 cfs	Moy 1-Oct. 31	Irrigotion, Domestic
15220 L-4565	3/3/53	Joseph R. Cook	1S/2W-28R1	North Fork Mottole River	NE	SE	28	1S	2W	H.	0.28 cfs	Moy 1-Oct. 1	Irrigotion
15224 P-9473	3/6/53	Bert & Ferne Rudolph		Berry Creek	SE	SE	9	18N	13W	M.D.	0.5 cfs 0.75 AFA	April 1-Oct. 15 March 1-Moy 1	Irrigotion
15337 L-5942	5/12/53	Merrill D. & Leoro W. Reed	24N/3W-54N1	Tributory to North Fork Eel River	NW	NW	17	24N	13W	M.D.	16,000 gpd	Moy 1-Oct. 30 All yeor	Irrigotion Domestic
15357 L-5226	5/25/53	Peter F. & Lucille M. Lorensen	4N/1W-16K1	Elk River	NW	SE	16	4N	1W	H.	0.64 cfs	June 15-Oct. 1	Irrigotion
15444 L-5429	8/3/53	Robert E. & Lois L. Renner	2N/1W-27E1	Price Creek	NE	SW	27	2N	1W	H.	0.39 cfs	June 1-Sept. 15	Irrigotion
15581 L-5670	10/20/53	Theodore & Mory A. Renner		Price Creek	SW SE SE	NE NE NW	28 28 27	2N 2N 2N	1W 1W 1W	H. H. H.	700 gpd	April 1-Dec. 1	Stockwatering

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15694 P-9816	1/20/54	Cyril & Roberta Flugger		Spring tributary to Little Dan Creek	SE	NE	13	23N	17W	M.D.	0.13 cfs	All year	Domestic
				Little Dan Creek	SE	NE	13	23N	17W	M.D.			
15703 L-5021	1/25/54	Mabel W. & Roscoe G. Hotchkiss	5S/7E-28D1	Childs Creek	SE	NW	28	5S	7E	H.	0.2 cfs	All year	Power
15752 L-5154	3/2/54	Leonard M. Miller	5S/7E-17R1	Spring tributary to Troutman Creek	SE	SE	17	5S	7E	H.	9,000 gpd	April 15-Oct. 15	Irrigation, Domestic Stockwatering
15753 L-5690	3/2/54	Leonard M. Miller	5S/7E-20A1	Troutman Creek	NE	NE	20	5S	7E	H.	0.04 cfs	April 15-Oct. 15	Irrigation
15826 P-9881	4/9/54	Southern Humboldt Unified School District		Line Gulch	NE	SE	33	2S	5E	H.	0.02 cfs 0.09 AFA	All year All year	Domestic
15868 L-5400	5/11/54	Fred Fearrien	2S/5E-7Q2	Tributary to Larabee Creek	NE	NE	18	2S	5E	H.	21 AFA	Oct. 1-May 30	Irrigation
15926 L-6013	6/23/54	Union Lumber Company		Cedar Creek	SE	SE	11	23N	17W	M.D.	0.16 cfs	All year	Industrial, Domestic, Fire Protection
16088 P-10150	10/13/54	W. C. Johnston		Dutch Charlie Creek	SE	NE	8	21N	16W	M.D.	1.0 cfs	June 1-Oct. 1	Irrigation
				Dutch Charlie Creek	SW	NW	9	21N	16W	M.D.			
				Rock Creek	SE	NE	9	21N	16W	M.D.			
				Rock Creek	SE	SW	9	21N	16W	M.D.			
				South Fork Eel River	SE	SW	9	21N	16W	M.D.			
				South Fork Eel River	NW	SW	9	21N	16W	M.D.			
16147 L-6093	11/19/54	George W. & Mildred V. Baack		Spring tributary Squaw Valley Creek	NW	SW	12	18N	10W	M.D.	350 gpd	March 1-Dec. 1	Domestic
16251 L-5347	2/28/55	George W. Evans	2N/1E-31L1	Eel River	NE	SW	31	2N	1E	H.	0.1 cfs	June 15-Sept. 15	Irrigation
16270 P-10231	3/14/55	George E. Davis		Spring tributary to Lake Pillsbury	SE	NW	12	18N	10W	M.D.	500 gpd	All year	Domestic
16300 L-5591	4/5/55	U. S. Mendocino Nat'l Forest	22N/9W-35B1	Plaskett Creek	SE	SE	26	22N	9W	M.D.	650 gpd 9.3 AFA	March 1-Oct. 1 Oct. 1-March 1	Recreational
16301 L-5592	4/5/55	U. S. Mendocino Nat'l Forest	22N/9W-26Q1	Plaskett Creek	SE	SE	26	22N	9W	M.D.	650 gpd 20.9 AFA	March 1-Oct. 1 Oct. 1-March 1	Recreational
16355 P-10541	5/2/55	William A. Douglas et. al.,	18N/12W-7D1	Tomki Creek	SW	SW	6	18N	12W	M.D.	0.375 cfs	April 15-Oct. 1	Irrigation
					SW	NW	7	18N	12W	M.D.	0.5 cfs	April 15-Oct. 1	Irrigation
					NE	NW	18	18N	12W	M.D.	0.375 cfs	April 15-Oct. 1	Irrigation
16417 L-6322	6/15/55	Ray T. Haag	18N/13W-9J1	Berry Creek	NW	SW	10	18N	13W	M.D.	0.02 cfs	May 15-June 30	Irrigation
16449 L-5893	7/6/55	George L. Jessup	21N/15W-11M1	Mill Creek	NE	SW	11	21N	15W	M.D.	2,000 gpd	April 1-Nov. 1	Domestic
16476 L-5547	7/20/55	Elsie S. Roberts		Spring tributary to Squaw Valley Creek	NW	SW	12	18N	10W	M.D.	500 gpd	All year	Domestic

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16534 L-6017	8/19/55	Gus & Ida Kapranos		Spring tributary to Squaw Valley Creek	SW	NW	12	18N	10W	M.D.	500 gpd	April 1-Dec. 1	Domestic
16615 P-10386	9/21/55	W. W. & Velma V. Marshall	4S/3E-24C1	South Fork Eel River	NE	NW	24	4S	3E	H.	0.71 cfs	April 1-Oct. 1	Irrigation Stockwatering
16654 P-10446	10/10/55	Ray E. & Maude E. Hunter	3S/1W-2E1	Mattole River	SE	NW	2	3S	1W	H.	1.5 cfs	June 1-Oct. 15	Irrigation
16684 P-10485	10/21/55	California Department of Natural Resources - Division of Forestry		Mattole River	Lot	8	5	5S	2E	H.	1,800 gpd	All year	Domestic
16769 P-10448	12/5/55	California Division of Forestry		Brown Creek	SW	SW	12	1N	3E	H.	9,000 gpd	All year	Domestic
16787 L-5512	12/12/55	Henry C. & Aida M. Barri	2N/3W-13H1	Fleener Creek	SE	NE	13	2N	3W	H.	0.14 cfs	May 1-Oct. 1	Irrigation
16788 P-10862	12/12/55	Paul M. & Betty Schmook		Tributary to East Branch of South Fork Eel River	NE	NW	24	5S	4E	H.	0.044 cfs	April 15-Oct. 15	Irrigation, Domestic
16822 L-6440	1/9/56	Dewey & Mary C. Dolf		Tributary to Jacoby Creek	NE	NE	10	5N	1E	H.	0.08 cfs	June 1-Aug. 1 Oct. 1-Oct. 31	Irrigation Stockwatering
17039 Inc.	4/24/56	California Water Commission		Eel River			6	2S	4E	H.	5,610,000 AFA	All year	Irrigation, Domestic other
17040 Inc.	4/24/56	California Water Commission		Eel River			6	2S	4E	H.	5,610,000 AFA	All year	Power
17041 Inc.	4/24/56	California Water Commission		Eel River		SW	19	24N	14W	M.D.	2,820,000 AFA	All year	Irrigation, Domestic, Other
17042 Inc.	4/24/56	California Water Commission		Eel River		SW	19	24N	14W	M.D.	2,820,000 AFA	All year	Power
17043 Inc.	4/24/56	California Water Commission		Eel River			32	21N	13W	M.D.	2,220,000 AFA	All year	Irrigation, Domestic, Other
17044 Inc.	4/24/56	California Water Commission		Eel River			32	21N	13W	M.D.	2,220,000 AFA	All year	Power
17045 Inc.	4/24/56	California Water Commission		Middle Fork Eel River			13	22N	12W	M.D.	1,180,000 AFA	All year	Irrigation, Domestic, Other
17046 Inc.	4/24/56	California Water Commission		Middle Fork Eel River			13	22N	12W	M.D.	1,180,000 AFA	All year	Power
17047 Inc.	4/24/56	California Water Commission		Van Duzen River			5	1N	5E	H.	730,000 AFA	All year	Irrigation, Domestic, Other
17048 Inc.	4/24/56	California Water Commission		Van Duzen River			5	1N	5E	H.	730,000 AFA	All year	Power

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TABLE C-1 (Continued)
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EEL RIVER HYDROGRAPHIC UNIT
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Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
17076 P-10666	5/8/56	John E. Munson		Tributary to Sherwood Creek	SE	SW	31	20N	14W	M.D.	2 cfs 190 AFA	May 1-Nov. 1 Nov. 1-May 1	Irrigation, Domestic Stockwatering
17133 L-6243	6/14/56	M. & M. Lumber Company	3S/5E-34N1	Mill Creek	SW	SW	34	3S	5E	H.	0.07 cfs	All year	Domestic, Industrial
17241 L-5948	8/17/56	Theodore R. & Gloria J. Beagle		Spring tributary to Lake Pillsbury	NE	SW	12	18N	10W	M.D.	300 gpd	April 1-Dec. 1	Domestic
17266 L-6223	9/5/56	Louis Ferrero		Spring tributary to Lake Pillsbury	SE	NW	12	18N	10W	M.D.	500 gpd	April 1-Dec. 31	Domestic
17268 L-6348	9/7/56	F. M. Gelardi		Spring tributary to Lake Pillsbury	NW	SW	12	18N	10W	M.D.	500 gpd	All year	Domestic
17269 L-6349	9/7/56	Warren A. Grissom		Spring tributary to Lake Pillsbury	NW	SW	12	18N	10W	M.D.	500 gpd	All year	Domestic
17270 L-6074	9/7/56	Burnett Specht		Spring tributary to Lake Pillsbury	NW	SW	12	18N	10W	M.D.	500 gpd	All year	Domestic
17274 L-6561	9/13/56	John & Mae Mekediok		Spring tributary to Lake Pillsbury	NE	SW	12	18N	10W	M.D.	100 gpd	All year	Domestic
17326 L-6224	10/17/56	Pete Locati		Spring tributary to Lake Pillsbury	SE	NW	12	18N	10W	M.D.	500 gpd	March 1-Dec. 31	Domestic
17327 L-5910	10/17/56	John J. & Marie C. Scobey		Spring tributary to Lake Pillsbury	SE	NW	12	18N	10W	M.D.	350 gpd	March 1-Dec. 31	Domestic
17328 P-11001	10/17/56	Thomas F. Ford		Spring tributary to Lake Pillsbury	SE	NW	12	18N	10W	M.D.	500 gpd	All year	Domestic
17358 P-10967	11/19/56	Maurice S. & Erma M. Lane	1S/3E-18R1	Newman Creek	SE	SE	18	1S	3E	H.	0.56 cfs	All year	Power, Domestic
17397 P-11152	12/17/56	David A. & Leone V. Jones		Hartstone Creek	NW	SE	19	18N	11W	M.D.	1.5 AFA	Nov. 1-June 15	Fish Culture
17465 L-5939	2/13/57	Oscar W. & Mabel M. Johnson		Spring tributary to Bridge Creek	NE	SW	16	2S	3E	H.	2,420 gpd	All year	Domestic, Fire Protection
17536 P-11007	4/2/57	Richard L. Billington	4N/1W-27A1	Elk River	NE	NE	27	4N	1W	H.	0.5 cfs	May 1-Oct. 1	Irrigation
17583 P-11327	5/7/57	Frank E. & Olieva L. Casey	1N/2E-33N1	Chadd Creek	SW	SW	33	1N	2E	H.	0.33 cfs	May 15-Oct. 1	Irrigation
17586 P-11213	5/7/57	Edward A. & Josephine C. Noyes	22N/12W-16A1	Tributary to Mill Creek Mill Creek	NE SE	NE NE	16 16	22N 22N	12W 12W	M.D. M.D.	0.56 cfs	May 1-Sept. 1	Irrigation
17606 P-11330	5/15/57	John D. Sogehorn		Tributary to Brooddus Creek	NW	SW	21	18N	14W	M.D.	0.44 cfs 100 AFA	May 15-Oct. 15 Oct. 15-June 15	Irrigation, Domestic Recreational, Fire Protection

Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
17803 L-6220	8/26/57	Robert H. & Verna W. Corbett		Mill Creek Mill Creek	SW NE	SE SW	7 7	18N 18N	13W 13W	M.D. M.D.	3,375 gpd	All year	Stockwatering
17809 P-11246	8/30/57	Willard L. Frier	21N/15W-13F1	Cahto Creek	SW	NW	13	21N	15W	M.D.	1.25 cfs	May 15-Oct. 15	Irrigation
17910 P-11409	12/10/57	E. Phillip Wrigley	4N/1W-15C1	Orton Creek	NE	NW	15	4N	1W	H.	12,000 gpd	May 15-Sept. 15	Irrigation
17993 L-6472	2/10/58	Sedge & Mary Brazil	4N/1W-15D1	Ortan Creek	NW	NW	15	4N	1W	H.	0.03 cfs	May 1-Sept. 1	Irrigation
18018 P-11437	2/26/58	Wendell G. Clousen		Elk River	SW	SE	9	4N	1W	H.	1.1 cfs	June 1-Sept. 30	Irrigation
18120 P-11739	5/2/58	Charles C. Kirk, et. al.		Tributary to Elkhorn Creek	SE	NW	20	24N	16W	M.D.	0.08 cfs	All year	Mining, Other
18136 P-11674	5/12/58	Weldon L. & Martha H. Croig	22N/13W-2F1	Town Creek	SE	NW	2	22N	13W	M.D.	2.25 cfs 30 AFA	April 15-Oct. 15 Oct. 15-April 15	Irrigation
18137 P-11750	5/13/58	Arda M. Gregory		Mill Creek	SE	SE	9	22N	12W	M.D.	0.22 cfs	May 15-Oct. 1	Irrigation Stockwatering
18184 P-11740	6/17/58	Elmer R. Black		Spring tributary to Eel River	NE	SW	12	18N	10W	M.D.	500 gpd	All year	Domestic
18361 P-11857	10/7/58	Adah M. Payton		Spring tributary to Larabee Creek	SE	SW	26	1S	4E	H.	570 gpd	May 1-Nov. 30	Domestic Stockwatering
18418 P-11875	11/20/58	U. S. Six Rivers Nat'l Forest		Spring tributary to Watts Lake Watts Lake	NE NE	NE NE	33 33	2S 2S	6E 6E	H. H.	3,000 gpd 7 AFA	June 1-Oct. 31 All year	Domestic, Recreational, Fish Culture
18600 Inc.	3/19/59	Round Valley County Water District		Short Creek	SE	NE	28	23N	12W	M.D.	62 cfs 30,000 AFA	May 1-Oct. 15 Oct. 1-June 30	Irrigation, Domestic, Other
18624 P-12111	4/3/59	Margaret Ann Brown		Tributary to Lake Pillsbury	SW	SE	3	18N	10W	M.D.	200 gpd	All year	Domestic
18677 P-12265	4/29/59	William & Helen Bartow William & Helen Bartow		Davis Creek Davis Creek	NE SE	NE NE	28 28	18N 18N	13W 13W	M.D. M.D.	0.2 cfs	May 15-Oct. 15	Irrigation Stockwatering
18702 P-12530	5/12/59	George S. & Helen High Daniels		Mud Springs Creek	NE SE	NW SW	10 3	21N 21N	15W 15W	M.D. M.D.	2.22 cfs 47 AFA	May 1-Oct. 15	Irrigation, Domestic
18775 P-12285	6/8/59	Pete Saottini		Jacoby Creek	SW	SE	4	5N	1E	H.	0.2 cfs	June 1-Oct. 1	Irrigation
18785 Inc.	6/11/59	Sonoma County Flood Control & Water Conservatian District, et. al.,		Lake Pillsbury Van Arsdale Reservoir	SW NE	SW SE	14 30	18N 18N	10W 11W	M.D. M.D.	93,700 AFA 345 cfs	All year All year	Municipal, other
18786 Inc.	6/11/59	Sonoma County Flood Control & Water Conservation District, et. al.,		Lake Pillsbury Van Arsdale Reservoir	SW NE	SW SE	14 30	18N 18N	10W 11W	M.D. M.D.	93,700 AFA 345 cfs 700 AFA	All year All year All year	Irrigation, Domestic

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TABLE C-1 (Continued)
APPLICATIONS TO APPROPRIATE WATER IN
EEL RIVER HYOROGRAPHIC UNIT
(Filed with State Water Rights Board as of November 23, 1962)

Application number and Status*	Date filed	Present owner	DWR ** diversion location	Source	Location of point of diversion						Amount	Period of diversion	Purpose
					¼	¼	Sec.	Tp.	R.	B & M			
18881 P-12328	8/3/59	O. N. Lucas		Eel River	SE	NW	27	3S	5E	H.	0.5 cfs	All year	Municipal
18951 P-12288	8/31/59	Theodore R. Shannon		Tributary to Kettenpom Creek	NW	NW	8	4S	7E	H.	0.031 cfs	All year	Domestic
18971 P-12227	9/8/59	Ronald D. Stanfield		Freshwater Creek	SE	NW	3	4N	1E	H.	2,150 gpd	March 1-Nov. 30	Domestic
18978 P-12270	9/10/59	Edgar & Evelyn A. Freemon		Tributary to Sherwood Creek	SE	SE	5	19N	14W	M.D.	45 AFA	Oct. 1-June 1	Irrigation
19024 P-12243	10/9/59	Arthur E. Johnson		Price Creek	NE	NE	32	2N	1W	H.	3,000 gpd	March 1-Oct. 31	Domestic
19097 P-12385	11/23/59	Harry E. & Eloine D. Dillon		Freshwater Creek	NW	SW	3	4N	1E	H.	0.09 cfs	May 1-Dec. 31	Irrigation Stockwatering
19124 P-12390	12/8/59	City of Fortuna		Eel River Underflow	SW	NE	11	2N	1W	H.	7.74 cfs	All year	Municipal
19295 P-12550	3/9/60	Sequoia Tree Farm		South Fork Eel River South Fork Eel River South Fork Eel River	SE NE SW	SE SE NE	16 16 16	21N 21N 21N	16W 16W 16W	M.D. M.D. M.D.	0.2 cfs	March 1-Dec. 31	Irrigation
19312 P-12815	3/17/60	Russell C. & Lucille C. Webb		Feese Creek	SE	NW	7	25	3E	H.	0.036 cfs	All year	Domestic
19335 Inc.	4/1/60	California Water Commission		Short Creek		NE	28	23N	12W	M.D.	33,000 AFA	All year	Irrigation, Others
19364 P-12678	4/20/60	Fisher Mink Farms		Tributary to Humboldt Bay	NE	NE	17	4N	1W	H.	2,660 gpd	All year	Domestic Stockwatering
19415 P-12986	5/5/60	Oakland Area Council Boy Scouts		Finney Valley tributary to Berry Creek	SE	NE	15	18N	13W	M.D.	500 AFA	Oct. 1-May 1	Recreational Fish Culture
19435 P-12895	5/11/60	Eugene J. & Betty L. Senestraro		Martins Slough	SW SE	SW SE	3 4	4N 4N	1W 1W	H. H.	0.5 cfs	May 15-Sept. 30	Irrigation
19533 P-12819	7/8/60	Little Valley Mutual Water Company		Harmony Spring No. 1	NE	SE	13	23N	17W	M.D.	0.039 cfs	All year	Domestic
19543 P-12869	7/13/60	Walter R. & Yvonne Wolf		Spring tributary to Lake Pillsbury	SE	NW	12	18N	10W	M.D.	500 gpd	All year	Domestic
19631 P-12774	7/29/60	Charles J. & Katherine H. Rennar		Price Creek Price Creek	SW SE	NE NE	28 28	2N 2N	1W 1W	H. H.	300 gpd	All year	Stockwatering
19642 P-12978	8/1/60	Lee & Millicent Cornwell		Tributary to Long Branch Creek	SE	SE	28	18N	12W	M.D.	22 AFA	Nov. 15-May 15	Recreational Wildlife Propagation
19711 P-12782	8/25/60	Maynard J. & Irene A. Omernik		Cedar Creek	SE	NE	14	23N	17W	M.D.	13,000 gpd	All year	Domestic

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19712 P-12783	8/25/60	Joseph A. Jr. & Edna A. Omernik		Cedar Creek	SE	NE	14	23N	17W	M.D.	11,000 gpd	All year	Domestic
19713 P-12784	8/25/60	Jack & E. Lou Smith		Cedar Creek	SE	NE	14	23N	17W	M.D.	11,000 gpd	All year	Domestic
19722 P-12979	8/30/60	Lee & Millicent Cornwell		Tributary to Long Branch Creek	NE	NE	34	18N	12W	M.D.	10 AFA	Nov. 15-April 15	Irrigation, Domestic, Recreational
19755 P-12987	9/27/60	Oakland Area Council Boy Scouts		Finney Valley tributary to Berry Creek	SE	NE	15	18N	13W	M.D.	300 AFA	Oct. 1- May 1	Recreational, Fish Culture
19814 P-12866	10/13/60	Alan Kenneth Shelton		Spring tributary to Lake Pillsbury	SW	NW	12	18N	10W	M.D.	500 gpd	All year	Domestic
19923 P-13062	1/18/61	Miranda Private Water Development		South Fork Eel River Underflow	NE	SW	3	3S	3E	H.	0.89 cfs	All year	Municipal
20111 P-13143	5/8/61	L. Rae & Lloyd Brightman		Tributary to Willow Brook	NE	NW	33	4N	1W	H.	766 gpd	All year	Domestic
20155 P-13355	5/31/61	Thomas & Mabel M. Harrington		Dinner Creek	SW	SE	22	4S	2E	H.	0.03 cfs 1 AFA	April 1-Dec. 31 Nov. 1-May 31	Irrigation Recreational, Fish Culture
20275 Inc.	6/22/61	California Water Commission		Eel River	SW	SE	6	19N	12W	M.D.	1,900,000 AFA	All year	Power
20276 Inc.	6/22/61	California Water Commission		Eel River	SW	SE	6	19N	12W	M.D.	1,900,000 AFA	All year	Irrigation, Domestic Other
20346 P-13482	8/9/61	Adrian V. Chapin & Dulce C. Fowler		Reas Creek	SW	NE	3	2N	2W	H.	0.5 cfs	June 1-Oct. 31	Irrigation
20454 P-13551	10/27/61	Lloyd J. & Laura Pawlus		Van Duzen River	SW	SW	12	1N	3E	H.	0.09 cfs	All year	Irrigation, Domestic
20455 P-13552	10/27/61	Lloyd J. & Laura Powlus		Van Duzen River	NE	NE	14	1N	3E	H.	0.1 cfs	All year	Domestic
20481 P-13796	11/8/61	Clive & Jessie Adams		Tributary to Eel River	NE	SE	21	19N	12W	M.D.	37 AFA	Oct. 15-June 1	Irrigation Recreational
20519 P-13498	12/7/61	U.S. Mendocino Nat'l Forest		Springs tributary to Benmore Creek	SE	SW	33	18N	10W	M. D.	500 gpd	April 1- Nov. 1	Domestic, Wildlife Propagation
20699 P-13661	4/4/62	U.S. Mendocino Nat'l Forest		Bloody Rock Spring	NW	SE	26	19N	9W	M.D.	1,000 gpd	All year	Domestic, other
20818 P-13779	6/13/62	Robert J. & Marion W. Monical		Tributary to Eel River	SW	SE	19	18N	11W	M.D.	8,400 gpd	April 1-Nov. 1	Irrigation, Domestic
20845 P-13833	7/5/62	Robert J. & Marion W. Monical		South Eel River	SE	SE	19	18N	11W	M.D.	0.15 cfs	April 1-Nov. 1	Irrigation
20971 Inc.	10/8/62	Ben Mast	21N/15W-22C1	Tributary to Cahto Creek	SE	SW	15	21N	15W	M.D.	400 AFA	All year	Irrigation

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21008 Inc.	11/7/62	Crawford Lumber Company		Tributary to Short Creek	NE	SW	22	23N	12W	M.D.	200 AFA	All year	Irrigation, Other

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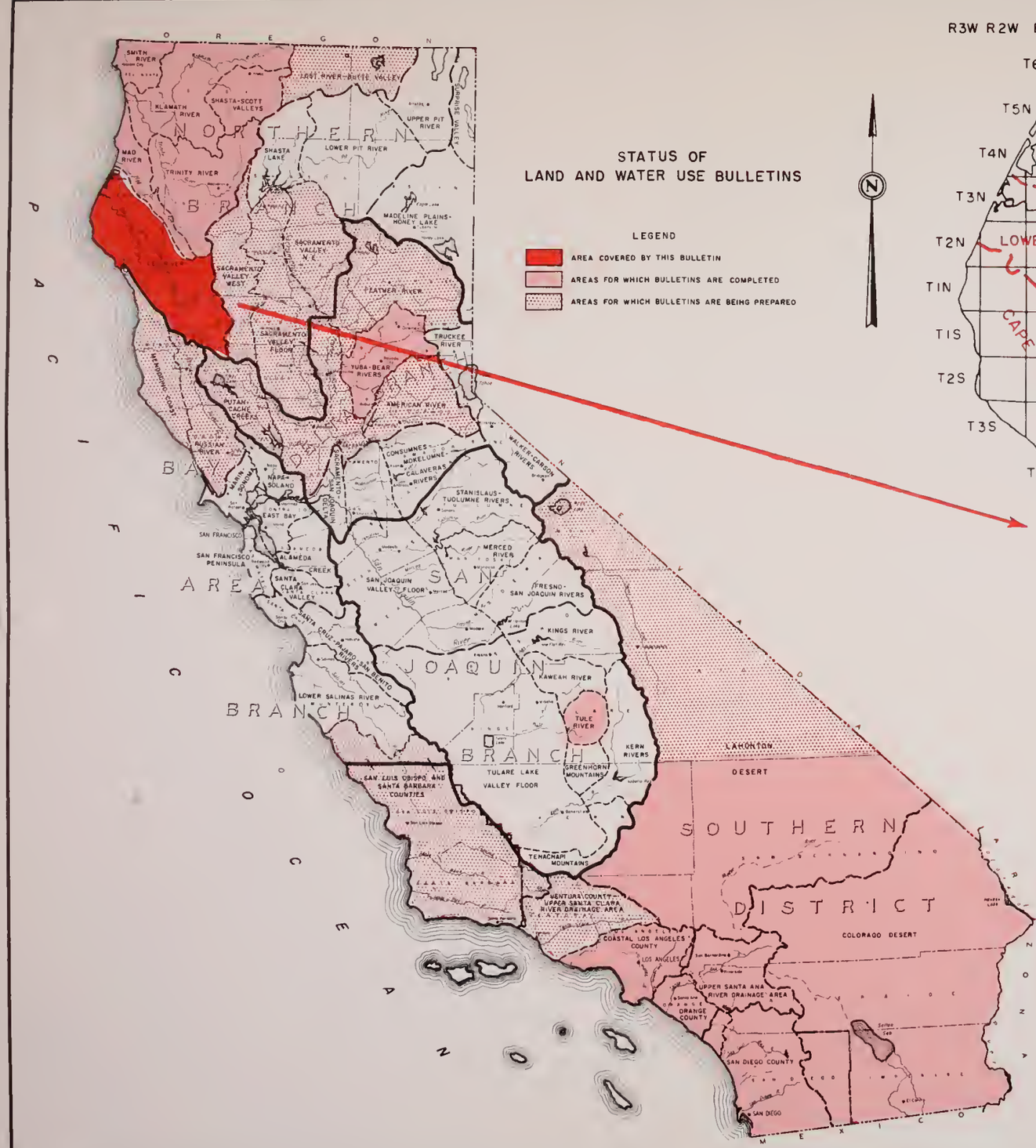
					¼	¼	Sec.	Tp.	R.	B & M			
21008 Inc.	11/7/62	Crawford Lumber Company		Tributary to Short Creek	NE	SW	22	23N	12W	M.D.	200 AFA	All year	Irrigation, Other

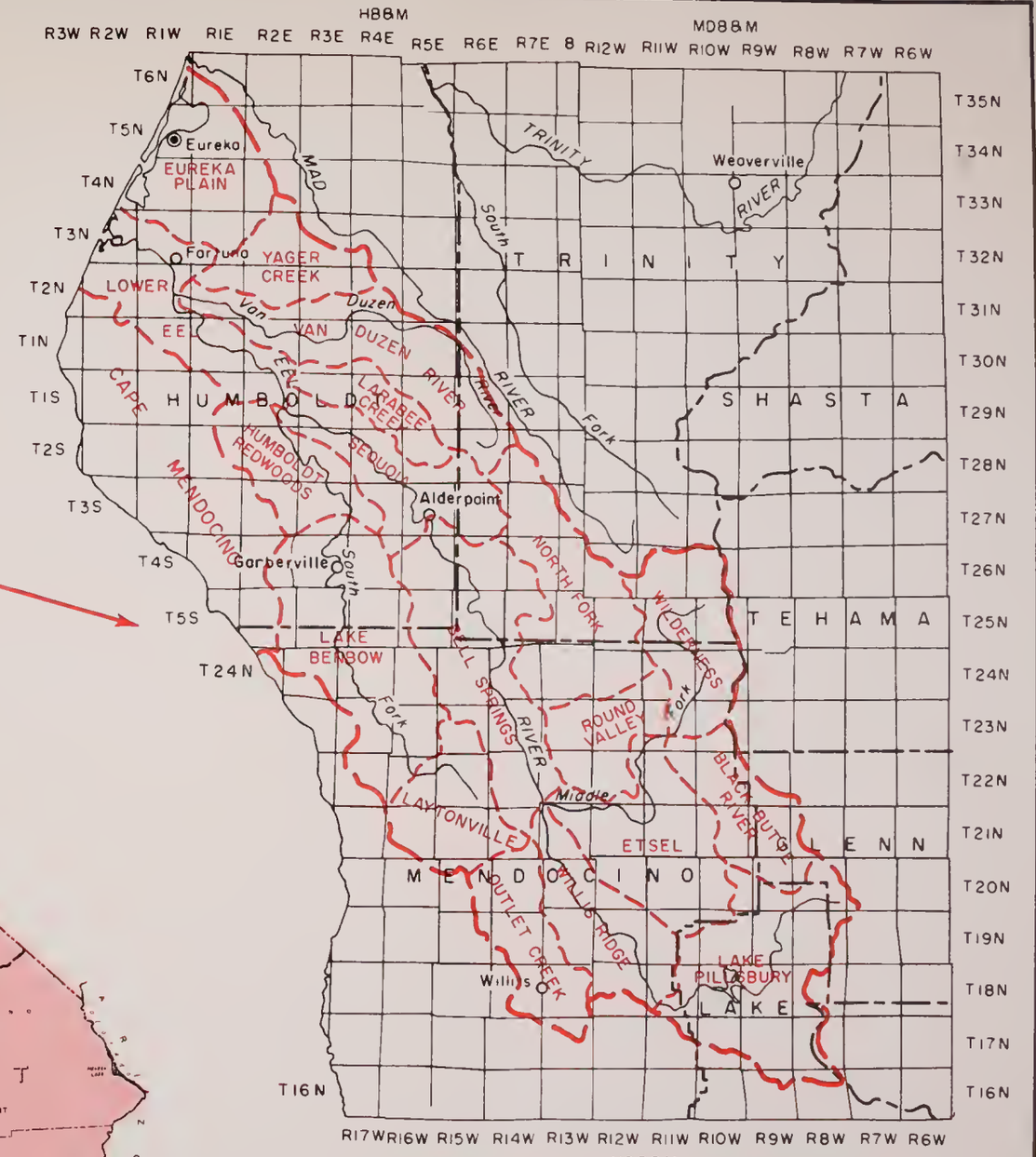
PLATE 1



STATUS OF LAND AND WATER USE BULLETINS

LEGEND

- AREA COVERED BY THIS BULLETIN
- AREAS FOR WHICH BULLETINS ARE COMPLETED
- AREAS FOR WHICH BULLETINS ARE BEING PREPARED



SUBUNITS OF EEL RIVER HYDROGRAPHIC UNIT

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
NORTHERN BRANCH

LAND AND WATER USE
EEL RIVER HYDROGRAPHIC UNIT

LOCATION OF UNIT
1962

THE RESOURCES AGENCY OF CALIFORNIA

Department of Water Resources

BULLETIN No. 94-8

LAND AND WATER USE IN EEL RIVER HYDROGRAPHIC UNIT

Volume II: Plate 2
Land and Water Use

Preliminary Edition

OCTOBER 1963

HUGO FISHER
Administrator
The Resources Agency of California

EDMUND G. BROWN
Governor
State of California

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Director
Department of Water Resources